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Original Articles

OCULAR PALSIES IN TABES *

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The importance of examining the eyes of tabetics has long been recognized by neurologists, for the ocular symptoms often precede all other sure signs. Indeed, so constant and characteristic are the pupillary, muscular and optic-nerve changes in this disease that, given in addition to even one of these, the history of previous syphilitic infection and another characteristic sign of tabes, such as loss of knee-jerks, diminution in muscle tonus of the legs, or a marked disturbance of the bladder or sexual functions, the diagnosis of tabes becomes very probable. It is not the purpose of this paper, however, to treat of the ocular symptomatology of tabes in general, but to dwell particularly on the palsies of eye muscles, and especially of the extra-ocular muscles, which are observed so frequently at some stage or other of the disease.

In attempting a generalization of the extra-ocular palsies, it may be remarked that, while they resemble in many particulars palsies of eye muscles due to other causes, they manifest certain characteristics, which, while not in themselves peculiar to tabes, are at least highly suggestive of the presence of that disease.

The first and chief of these is their transient tendency, for it is an almost constant experience that the palsies which appear in the early stages of the disease vanish after periods of persistency ranging from but a few hours to two or three weeks, and, moreover, while it is true that the palsies which occur in the later stages are as a rule permanent, even these may be transient and may totally disappear, usually after a longer period, however, than when they are observed at the commencement of the disease.

The careful historian will often elicit the occurrence of diplopia in very many cases from patients who are loath to believe that the attacks of double vision from which they suffered even months or years before other symptoms of tabes developed had any connection with their general nervous disorder.

As illustrative of a fleeting palsy occurring in the early stages may be cited the case of a man, aged 45, who consulted me in 1895 on account of a paralysis of the right external rectus muscle. He confessed to having had an initial sore when 25 years old, but as he had received prompt and, as he thought, efficacious antisyphilitic treatment and as his health had been uninterruptedly good, he considered himself to be well. In addition to the extra-ocular palsy noted at the examination, Argyll-Robertson pupils were present, and his physician reported other signs of early tabes. Potassium iodid was administered in ascending doses, and the diplopia totally disappeared after two months' duration. Although this case has passed from my observation, it was reported to me five years ago that the patient was still living, and, though manifestly the subject of tabes, he seemed to suffer but little inconvenience from it.

Another patient, M. J., aged 53, a patient in the Philadelphia General Hospital, gave a history of having had diplopia six years before admission and that it lasted two years. When the diplopia disappeared he began to notice occasional jerkings in the right foot and his gait became disturbed. Examination which I made six months ago revealed no ocular palsies, and the neurologic report was as follows:

"Slight ataxia in upper extremities. Romberg symptom. Ataxic gait. Hypotonia in lower extremities. Knee-jerks lost, etc." Syphilis was denied.

As an example of a transient palsy occurring in a late stage of the disease may be mentioned the following:

J. C., admitted to nervous wards of the Philadelphia General Hospital in 1896, aged 51, with the history of an initial luetic lesion twenty years previously. It was elicited on admission that the earliest symptoms of tabes had manifested themselves six years previous to admission as "cutting" pains in feet and legs. Girdle pains were also present. Two years later gastric and bladder symptoms supervened. Argyll-Robertson pupils were present in both eyes, knee-jerks were lost, ataxia was noted in the upper and lower limbs, but the extra-ocular movements were uninvolved. Six years after admission diplopia appeared (due probably to a paretic condition of the right superior rectus) and persisted for several months. The double vision then gradually disappeared and did not return during the two years or more during which the patient still continued to retain sight, vision being gradually lost at the end of that period from optic atrophy. When I examined the patient six months ago the movements of both eyes were found to be markedly incoordinated, not only from the incoordination of blindness, but also from a paretic condition of the extra-ocular muscles, which seemed to reside chiefly in a weakness of the right superior rectus muscle.

Thomas, who analyzed 111 cases of tabes from the Hopkins clinics in 1899, found the initial symptoms to consist of diplopia in 6 instances, and of other eye symptoms in 14 instances. Diminution of vision was the initial symptom in 4 cases. Double vision and dimness of vision were associated once and double vision with other symptoms 7 times. Ptosis was the first symptom associated with pain twice. Of all the symptoms, pain was the one most generally complained of, being present in 57 cases; ataxia was the initial symptom 24 times, numbness of extremities 6 times, paralysis of bladder 5

* Read before the Buffalo Ophthalmological Society, Dec. 11, 1909.

times, gastric crises 4 times, paralytic attacks twice, while loss of sexual power, mental symptoms and neurasthenia were recorded as initial symptoms in one instance.

Thomas did not mention in how many of his cases the diplopia disappeared, but I think that it has been my experience that the palsies vanish, for a time at least, in perhaps 90 per cent. of the cases which I have had under observation. This percentage is based on an analysis of the histories of 60 cases of tabes taken from my own private and hospital records and from the study of 28 cases of advanced tabes which I recently made in the wards of the Philadelphia General Hospital, through the courtesy of Drs. C. W. Burr and William G. Spiller, neurologists to the institution.

In addition to the transient tendency which tabetic ocular palsies exhibit must be noted a very marked disposition to recurrence, either the same muscle being repeatedly palsied, or the palsy appearing in another muscle or muscles, shortly after it has disappeared in one governed by another nerve. An interesting case of this nature is reported by Pel, in which oculomotor palsy, which was the first indication of the disease, recurred 7 times, after having completely disappeared 6 times. This disposition to recurrence is well exemplified by a case under observation at the present time, in which the diplopia, which previously appeared eight years ago, disappeared after about two months' persistency, to reappear three years later for a period of three months, two years later for three months, while the present attack came on one month ago and is still persistent. The muscle occasioning the diplopia at present is the left inferior oblique; in the other attacks the patient states that one object was always higher than the other and there was some lateral displacement, but he was unaware of the precise muscle or muscles which the oculists to whom he went for relief found implicated. This patient, a man, 49 years old, contracted syphilis when aged 29; he now shows evidence of beginning atrophy of both optic nerves, with other well-developed signs of tabes. Argyll-Robertson pupils are present in both eyes.

So fleeting is the palsy in some instances that it may pass away in a few hours, while in others it may persist for years, the muscle regaining its power only after long loss of function. This return of the muscle to its normal action after even years of paralysis should be recognized by ophthalmic surgeons and should tend to discountenance operations on the eye muscles of tabetics.

As illustrative of this type may be cited the case of R. L., a woman, aged 60, who consulted me at the Howard Hospital in 1896 on account of double vision, which examination showed to be due to a paralysis of the left external rectus muscle. There was a history of recurrent attacks of double vision of a somewhat similar nature having occurred for some years previously, but these attacks had been fleeting, whereas the double vision for which she then sought relief had persisted for six weeks or more. The knee-jerks were absent, Argyll-Robertson pupils were present in both eyes and the discs were partially atrophic, the fields being contracted. There was a probable history of syphilitic infection some fifteen years previously. Potassium iodid was administered for three months in high doses without affecting the palsy. The patient then passed from observation for two years, when she returned for a change of glasses. Examination at this visit showed all the extra-ocular muscles to be functioning, the patient asserting that she had not been troubled with the double vision for some two or three months previously. In this case the palsy completely disappeared after a persistence of about two years. Recent efforts to find the patient, with a view to determining the progress of her disease, have been ineffectual.

Another peculiarity of tabetic palsies is that they are usually dissociated, i. e., paralysis of the levator or rectus internus alone, the palsy following no particular rule. This is especially true when the palsy appears as an initial symptom, when it rarely affects all muscles or muscle groups supplied by a single nerve.

In studying the relative frequency with which the several eye muscles become affected in tabes, Uhthoff found the oculomotor involved in 54 per cent. of his cases, the abducens in 33 per cent., the trochlearis in 8 per cent. Ophthalmoplegia externa existed in 5 per cent. and isolated ophthalmoplegia interna in 5 per cent. Beyer's, Stock's, Erb's, Fournier's and Charcot findings were similar. Of 100 cases of tabes seen in Schoeler's eye clinic, the oculomotor was involved in 26 instances. From an analysis of 60 of the cases which I observed and which lent themselves to such a study, it was found that the oculomotor was at fault in 30 of the cases, the abducens in 6, and the trochlearis in 2. In the remaining 22 cases the paralysis was of a mixed type. Complete unilateral oculomotor palsy occurred in 3 instances. Complete palsy of the oculomotor in all its branches is very rare, Uhthoff meeting it in but 5 per cent. of all his cases, and in but a very small proportion of these was the palsy binocular.

An interesting case of complete palsy of the right third and sixth nerves and of a partial implication of the left third nerve was one of the cases placed at my disposal by Drs. Burr and Spiller and studied by me. This patient, a man, aged 39, had noted that five years previous to his admission to the hospital in 1907 the left pupil did not contract and that he had some difficulty with vision. About the same time a numbness was remarked in the right foot and two years later in the left leg. Girdle pains followed later. Examination which I made six months ago showed the conditions just mentioned. Argyll-Robertson pupils and Romberg sign were present, and ataxic gait, with absent knee-jerks, was noted, with some impairment of sensation in lower extremities.

According to Oppenheim, associated palsies never occur in tabes, but Uhthoff, though stating that the finding must be very rare, cites a case reported by Chvostek with bulbar symptoms, in which there was left-sided ptosis, palsy of the left rectus internus and of the right rectus internus in association with paretic nystagmus.

I found paralysis of both external rectus muscles in two cases. One of the patients, G. H., a man, aged 41, was admitted to the nervous wards of the Philadelphia Hospital Oct. 3, 1907, with well-marked optic atrophy. A period of double vision had preceded the blindness, however, by some five years. The sexual power was lost at the same time that the blindness developed, ataxia in the lower extremities manifesting itself somewhat later. My examination six months ago revealed complete atrophy of both optic nerves with paralysis of both external rectus muscles; knee-jerks lost; ataxia in both upper and lower extremities.

Wilbrand and Saenger observed that isolated palsy was an accompaniment of the initial stages, and generally disappeared, persisting as a permanent finding but very rarely, i. e., in but 3.3 per cent. of 302 cases. Marina, however, found the paralysis to be persistent in 10.6 per cent. of the 150 cases observed by him.

Although the palsies may occur at any stage of the disease, most authors have observed them relatively early,

83 per cent. of Berger's cases and 80 per cent. of Gowers' occurring in the initial stage. Uhthoff's experience was similar, and he considered the palsies to be analogous to the appearance of the Argyll-Robertson pupil and optic atrophy.

After studying an enormous number of cases of tabes, taken from all sources, Uhthoff found that palsy of the eye muscles occurred in from 20 to 22 per cent. of the cases. Moeli placed the figures at 22 per cent., Reumont at 17 per cent., Marina at 19.5 per cent., Leinbach at 16 per cent., Tumpouski at 21.7 per cent. Mann found palsies in 30 per cent. of his cases. It should be noted, however, that the percentage of palsies observed in an eye clinic is necessarily higher than that observed in a clinic devoted to nervous cases, since the moment double vision is complained of the patient seeks the former. In the rare cases of true tabes in children, Uhthoff found ocular palsies in about 14 per cent. of the cases, while Argyll-Robertson pupil occurred in 65 per cent. and optic atrophy in 45 per cent.

According to the figures just quoted, palsy of the eye muscles in tabes in adults is much more common than atrophy of the optic nerve, which, from Uhthoff's figures, is seen in from 18 to 20 per cent. of all cases. They are not observed, however, in the initial stages of tabes as frequently as the Argyll-Robertson pupil or as lancinating pains, or again as the loss of reflexes, as will appear from the table prepared by Fehre and quoted by Uhthoff in his remarkably learned dissertation on this subject in the second edition of the Graefe-Saemisch "Handbuch":

	Per Cent.
1. Disturbances in sensibility (in the widest sense)	92
2. Lancinating pains	85
3. Loss in patellar reflex	83
4. Argyll-Robertson pupils	79
5. Romberg phenomenon	71
6. Ataxia	55
7. Bladder and rectal symptoms	50
8. Gastric crises	43
9. Pupillary inequality	41.5
10. Paresthesias	36
11. Headache and attacks of dizziness	40
12. Involvement of cerebral nerves	40
13. Girdle sensations	36
14. Weakness in legs	30
15. Palsy of ocular muscles	30
16. Optic atrophy	21.5
17. Cardiac neuroses	21.5
18. Psychic disturbances	21
19. Diplopia	19
20. Laryngeal crises	15

Rarely muscles other than the ocular muscles may be palsied at the same time. Thus a case reported by Turner, that of a man of 40, there was some ptosis and also some bilateral palsy of the soft palate and paralysis of the vocal cords. Rarely also, instead of an ocular palsy, a blepharospasm may be noted or a blepharospasm may precede the development of ocular palsies.[1]

Of 1,088 cases of tabes seen by Grosz, Berger, Bernhardt, Leinbach and Bonar, 222, or 20.4 per cent. had optic atrophy. As this number is so large, this percentage probably represents the true frequency of this symptom in tabes.

It is of interest to remark that, from an analytical study of 127 cases, in which optic atrophy occurred 55 times, Mann found no tendency for the involvement of the nerve to lighten the future course of the disease. It must be remembered, however, that the form of tabes which begins with optic atrophy is often for a long time combined with a loss in power of the roots of the thoracic nerves, when all other symptoms are absent. According to Mann, the same holds good not only for optic atrophy, but is also the rule in cases presenting Argyll-Robertson pupils and ocular palsies, both of these symptoms being sometimes associated for a long time solely with anesthesia of the trunk.[2]

Abducens palsy occurred in 13 per cent. of Uhthoff's cases, though binocularly in but 2 per cent. This observation is of considerable moment in establishing a differential diagnosis between tabes and cerebral syphilis, multiple neuritis, intoxications, etc., in which latter conditions binocular isolated disease of the abducens is not unusual. Authorities agree that in tabes abducens palsy is, as a rule, incomplete and but rarely permanent.

Uhthoff's statistics show isolated ptosis in about 4 per cent. of his cases; indeed, so much stress does this observer lay on this symptom that he believes, in common with Wilbrand and Saenger, that a unilateral or bilateral transient ptosis, complicated by one or more pronounced tabetic symptoms, such as Argyll-Robertson pupil, lancinating pains, failure of knee-jerks, optic atrophy, etc., makes the diagnosis of tabes extremely likely. Wilbrand and Saenger and Kahler found the combination of ptosis with abducens palsy not infrequent in the early stages of tabes, while Uhthoff's cases, on the other hand, showed a frequent combination of palsy of the levator with that of the superior rectus.

It has long been a mooted question just what influence syphilis, the underlying factor in so many cases of tabes, might have on the occurrence of the palsies. Berger, for example, found, in 56 cases of tabes studied by him which had ocular palsies, that a direct syphilitic history was obtainable in 25, a specific infection being denied in 31. He asserted also that his observations led him to infer that the palsies in the syphilitic cases showed a greater tendency to be permanent than in the non-syphilitic ones, the syphilitic palsies persisting on an average of six and one-half months, the non-syphilitic but two months. His figures showed also that the former class of palsies exhibited a greater tendency to be multiple than the latter. Uhthoff's figures, on the other hand, do not substantiate Berger's, and this careful observer has not been able to satisfy himself that palsies occurred more frequently in cases of tabes with a syphilitic history than in those where no syphilitic history was obtainable. Uhthoff concedes, however, that a subject with syphilis affected with ophthalmoplegia is oftener later affected by tabes than those with ophthalmoplegia without previous syphilitic infection. Spiller believes that these statistics may be unreliable, for, he says, "many persons deny syphilitic infection with full knowledge of the infection." He thinks statistics based on the Wassermann reaction will be more valuable. At present this reaction seems to be obtained in about 60 per cent. of all cases of tabes.

As a further point in the differential diagnosis between the ocular symptoms of tabes and cerebrospinal

1. Posey and Spiller: The Eye and Nervous System, p. 502.

2. After a critical reading of this paper, Dr. W. G. Spiller has told me, "It is very important to separate those cases of tabes in which optic atrophy is an early sign from those in which it occurs late. It is only in the former that the atrophy seems to have any influence on the course of the disease, and while it does not invariably modify the course, it does so in a sufficient number of cases to show it has a decided influence. Indeed Déjerine has employed the term of 'tabes arrested by blindness.' Statistics which include the cases of early and late optic atrophy are valueless for this purpose. Early optic atrophy is not very rare, tabes without implication of roots below the thoracic is distinctly rare, and early optic atrophy is frequently seen with the usual lumbo-sacral type of the disease. Byron Bramwell questions the influence of optic atrophy at any stage on the course of the disease."

syphilis may be cited the observation of Groenouw, that the Argyll-Robertson pupil is generally indicative of tabes, unilateral ophthalmoplegia interna of syphilis. Again, according to Fournier, syphilitic palsies as a rule affect the entire nerve or a great number of its branches, while a single muscle is involved in tabes. It has been my experience that inequalities in the size of the pupil and disturbances in its reaction are found in the early stages of cerebral syphilis, often associated with optic neuritis, while palsies of the extra-ocular muscles, as a rule, belong to the later stages. When syphilitic palsies do occur in the early stages they develop more gradually and persist longer, tabetic palsies, as has been said, manifesting a tendency toward speedy disappearance and frequent recurrence. Conjugate deviations and ophthalmoplegia externa are caused almost exclusively by syphilis.

Ophthalmoplegia interna is rarer in tabes than in other affections of the nervous system. Mann, for example, finding it but 19 times among 127 cases of tabes (14.9 per cent.). Of 30 cases of ophthalmoplegia interna seen by Uhthoff, syphilis was the causal factor in 23.3 per cent., tabes in 10 per cent., progressive paralysis in 6.6 per cent., trauma in 6.6 per cent., extreme cold in 3.3 per cent., intracranial disease in 6.6 per cent., while no etiologic factor could be found in 40 per cent. of the cases. Uhthoff found ophthalmoplegia interna with unaffected external eye muscles oftener in tabes than with palsied extra-ocular muscles. Wilbrand and Saenger's observations tallied with his, but 14 per cent. of the more than 100 cases of tabes and ophthalmoplegia cited by them exhibiting ophthalmoplegia interna in association with palsy of the extra-ocular muscles. In the remaining cases, Argyll-Robertson pupils were observed relatively often, normal pupils but rarely. In view of this fact, Uhthoff has suggested that a non-tabetic ophthalmoplegia can readily be differentiated from one due to tabes by the presence of an unaffected pupil. It must be remembered, however, as Gowers has pointed out, that a true syphilitic ocular palsy may coexist with locomotor ataxia; indeed, tabes often cannot be distinguished clinically from syphilis of the nervous system.

According to Gowers, the initial symptom of tabes rarely appears within the first three years after the chancre; indeed, in one of his cases it was not noted until forty years afterward. Spiller thinks that usually about nine years elapse after the initial lesion before syphilitic palsies of the eye muscles appear.

It may not be amiss in this connection to refer briefly to the recent paper by Putnam,[3] in which exception was taken to the almost universally accepted opinion that syphilis was the sole cause of tabes, and stress laid on the necessity of considering other factors in the etiology. In the discussion which followed the reading of this paper, Allen Starr stated that he was utterly unable to find any syphilitic taint in 20 per cent. of his private cases of tabes, and it was elicited that Gowers had positively stated that syphilis could be excluded in 10 per cent. of all cases of tabes.

There is good evidence that tabes is not always directly the result of syphilitic virus, but results from parasyphilis from some toxic substance produced within the body. Indeed, according to Fournier, the comparative mildness of the primary constitutional symptoms in most syphilitics who ultimately become tabetic almost seems to indicate that when the syphilitic virus expends itself in severe primary and secondary manifestations there is less tendency to the subtle poison, which proves so disastrous to the nervous system.

The pathogenesis of ocular palsies in tabes is still in doubt, but the views of most neurologists, however, are probably best expressed by Fraenkel, who states that they are either pathologic occurrences of another nature than the general disease they are implanted on, or they are a part of the general disease. If they belong under the first category they share with the general disease the common etiology only, i. e., the syphilitic infection, and are pathologically primary or secondary nerve inflammations in distinction from the pathologic lesion of the general disease—a primary degeneration of the sensory neuron. The first type is oftener seen in those cases that are rather forms of multiple cerebrospinal syphilis of the tabetic type, and the second in the class of cases that incline toward the picture of a genuine tabes. In the first instance they may, therefore, be looked on as syphilitic ocular palsies occurring in a case of multiple cerebrospinal syphilis of the tabetic type, and in the second instance they are essentially the same phenomena as the motor phenomena in the extremities of tabetics.

It is for the second type that the view of a primary sensory origin seems to Fraenkel to be justified.

In their earlier stages, Fraenkel believes the palsies to be simply due to the loss of tonus which is mediated through disease of the sensory neuron, while later on when, owing to the long duration or the severity of the process in the sensory neuron, the motor neuron has undergone secondary changes, the palsies are more lasting, more extensive, and their immediate cause found to consist anatomically in degeneration of the nucleus, nerve trunk or muscle. Fraenkel is of the opinion that this view is not only quite compatible with the clinical and anatomic characteristics of the type of palsies outlined above, but receives further support from the fact that it permits a uniform pathogenetic conception of the general disease.

According to Uhthoff, an ependymitis in the third and fourth ventricles, as well as in the aqueduct of Sylvius, although found but relatively seldom post mortem, is to be regarded as the pathologic entity in cases of tabes which exhibit ocular palsies, while the transient nature of the palsies is accounted for by Kahler and Dufour by changes in the circulation with ependymitis and vascular dilatation. Strümpell, on the other hand, attributes the transient character of the palsy to peripheral changes in the nerves of the ocular muscles, ascribing the permanent palsies to lesions in the nuclei and roots of the nerves. Finally, there are others, like Basso, Rieger, Forster and Berger, who ascribe the fleeting character of the palsies to sympathetic vasomotor influences.

In concluding this paper, which has dealt with the true muscle palsies of tabes, I would also call attention to certain weaknesses or pareses which may be frequently demonstrated in individuals with cerebrospinal sclerosis. Often these may be diagnosed by the employment of the Maddox rod; more usually, however, they can be made manifest with the ordinary test for diplopia at the end of the excursions of the different muscles. Such pareses must be differentiated from static muscular insufficiencies, and account taken of their shifting and transient tendency in efforts toward their correction, by the incorporation of prisms in the lenses correcting any refraction errors.

I desire to express my appreciation of the honor which the ophthalmologists of Buffalo and its vicinity have

3. Putnam, James Jackson: A Side Light on the Origin of Tabes, Drawn from a Comparison of Tabes with Spinal Degeneration as Seen in Certain Anemias and Kindred Disorders of Nutrition, THE JOURNAL A. M. A., Sept. 25, 1909, liii, 996.

done me in requesting me to appear before them, and to thank them for their courteous attention during the reading of my paper. And while perhaps nothing has been said but that is familiar to all, nevertheless I trust that the citation of the statistics of the large European clinics as well as my own experience, insignificant as it may be in comparison with the monumental work of Uhthoff and others, may, nevertheless, stimulate a more general interest in the prompt recognition of a disease whose successful treatment often rests on its early diagnosis.

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THE RELATION OF THE UNIVERSITY TO THE MEDICAL SCHOOL *

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The American people are universally distinguished for their business ability and business successes. We live, however, in a world of universal compensations and retributions. If we have an enormous business talent which has won for us a name in the field of trade and commerce, we tend to draw into this province all our other interests. The pulpit and the press are not infrequently denounced as organs of syndicated wealth. In this very city of Chicago, the colleges and universities of the country have recently been declared worthless by a multimillionaire citizen because their graduates have not been trained in the ways of money making. And if in this presence I do not say that the medical profession has been commercialized I do not hesitate to assert that many medical schools and colleges have been established for the pecuniary benefit of their promoters, with the result that we now have in the United States almost as many of these institutions as all the rest of the civilized world, and our standards of medical education are a disgrace to the nation and an outrage on humanity.

The personal profit of individuals has been the most powerful and prolific motive for the multiplication of medical colleges, as it has also been the most pernicious. Fortunately, however, the general spirit of the age, as well as higher ideals of professional education, are working against these commercial medical schools. Not only are the motives of their founders and supporters better understood, but the superiority of medical schools founded on a different basis throws them more and more in the shade, while the growing costliness of a sound education in modern medicine makes their puny efforts ridiculous. At the same time there has been a growing appreciation of the fact that every professional school to be vital and efficient must be a department of a university. Under the influence of these ideas and agencies I have no doubt that the number of private-enterprise medical colleges is destined rapidly to disappear in this country. And I need scarcely say to this audience that this process is already hopefully under way.

I turn to a second motive for the establishment of medical colleges which deserves more consideration than it has hitherto received. I am, indeed, firmly persuaded that no medical school of the highest class can be maintained apart from a university. But I am equally persuaded that no university, merely because it is a university, is justified in founding a medical college. There has been a general impression not only in university circles, but among the members of the medical profession, that a university needed a medical department to round out its organization, and, as it were, to complete its existence. This belief is without warrant in history. It is true that the oldest university in the world, the University of Salerno, had a medical school, and was, indeed, nothing but a medical school. But within a generation came the universities of Bologna and of Paris, the one famous for law and the other for theology, and neither of them in the days of their first glory possessed a medical department. In his great history of universities Rashdall shows that some of the most famous of these institutions had only one or two departments, and that no particular faculty, medicine or any other, can be regarded as essential to the idea of the university, as that institution developed among the nations of Europe. The word university has nothing to do with universal knowledge. It means, on the contrary, merely a guild or corporation. When the founder of Cornell University declared that he would found an institution where any person might find instruction in any study, he formulated a brand-new idea of a university. Yet even at Cornell that idea remains at best an ideal, so vast is the sum total of human knowledge, so varied the fields of investigation, and so costly the maintenance both of instruction and research. And without special endowments, and large endowments too, neither Cornell nor any other university would be justified in the establishment of a medical department. The appeal that such a department is necessary to make a complete university is, as I have shown, historically without justification. And in any event to establish a university department in medicine which you have no special funds to maintain is to be a party to fraud on the public. This is especially true at the present time when, owing to the advance of science and the indispensableness of making provision for it in the curriculum, medical education is the costliest education given at our universities. I recall with satisfaction that on different occasions before the establishment of our own medical college at Cornell University, when I was solicited to "adopt" this or that medical college as the medical department of Cornell, I always replied that I did not want a medical department unless it were as organic a part of the university as any other college; nor would I favor the establishment of one without adequate special endowments for its maintenance. I may add that the members of the medical profession with whom I dealt were invariably amazed at the position I took, and in some cases felt it an affront to themselves that I was so mercenary and autocratic as to decline the offer they made me of eminent men unless the university had the right to control them and endowments to support their work! These recollections are from twelve to eighteen years old. And when I say that the position which I took in those years is now the position of the leaders of the medical profession, I may be pardoned for finding in that circumstance a striking evidence of the great advance which has been made in so short a time on the subject of medical education.

I have spoken of the costliness of medical education. In no other field has science brought such a wealth of new and fruitful discovery. All scientific work is expensive, and the medical sciences the most expensive of all because they deal with the complex phenomena of human life. All education in engineering science is also expensive. But engineering rests in a last analysis on the sciences which deal with energy and motion. And these

* Address delivered before the Joint Conference of the Council on Medical Education and the Committee on Medical Legislation of the American Medical Association, Chicago, Feb. 28 to March 2, 1910.

sciences are simplicity itself in comparison with those which deal with the mysteries of living organisms. Education in agriculture, which has to do with soil, and plant, and animal, is more expensive than engineering education. But, as I have already said, medical science, dealing with life in its highest form, is the most expensive of all. It is to be added that its costliness is likely to increase. For both the discovery of new scientific facts and principles and the application of these to medical practice will call for research on the part of able men who must devote to it the uninterrupted service of a lifetime and the maintenance of large and well-equipped laboratories for the conduct of their experiments and investigations. And even scientific investigators, teachers, and laboratories, do not complete the list of objects of expenditure in a medical college. It is now coming to be accepted as a commonplace that a medical college is in as much need of a hospital for the study of disease as it is of laboratories for scientific investigations and experiments. And at the first annual conference of this Council on Medical Education Dr. Councilman of Harvard stated that the hospital must be regarded in a certain sense as a laboratory for the study of disease, and that the future and the highest development of medical education in this country is wrapped up with the control of hospitals. I understand that a thousand dollars a bed is a moderate estimate of the cost of maintaining a hospital after the institution has been built and equipped. A hospital for a medical college with 200 beds would, therefore, require for its maintenance, after it had been built and equipped, an endowment of $4,000,000 or $5,000,000. When a couple of years ago I recommended to the faculty of the Cornell University Medical School that we should restrict admission to graduates in arts or science of recognized colleges and universities, I stated that the faculty should not accept this recommendation unless they were prepared to see the enrollment in the medical college drop from 300 or 400 students to 50 or 100 students. But I added that we should not decrease, but rather increase the cost of maintenance. And the cost per student is going to be between $2,000 and $3,000. Of course, this expenditure could be reduced by diminishing the number of men on the faculty who give their entire time to investigation. On the other hand, it would be increased if our medical college were put to the expense of supporting a hospital of its own.

In view of these facts, the first advice I should be disposed to give to a university that was inclined to "round out its organization" by establishing a medical department would be the single word: *don't*. Institutional ambition is as unhallowed a motive for the multiplication of medical colleges as the love of personal gain. The latter motive has filled the country with commercial schools of medicine. These schools are a disgrace to our country. Starving medical departments of impoverished universities are equally disgraceful. And the supposed glory accruing to a university which institutes professional schools when it has no funds to maintain them is as dishonorable a motive as the gain in professional advancement sought by physicians and surgeons who establish and maintain the private-enterprise medical institution.

The first service, therefore, which universities may render to medical education is a negative one. But, though negative, it is fundamental and vital. Have done with sham in medical education! Recognize that a medical department is the costliest department of a university! There may be a first-class university without a medical department. But a medical department which is not first class lowers the standing and hurts the reputation even of a good university. Whether any given university shall found a medical school or not is not a difficult question to determine. If the university has ample funds for this purpose which it ought not or cannot use for other departments to which it is already committed, if there is no first-class medical college in its state or locality, if, in a word, the university has both the opportunity and the funds, let it by all means establish a medical department. But let this new institution be not an attachment (or detachment) to the university, but an organic and vital member like other departments of the university, and, like them, animated by its spirit and controlled by its standards. A genuine university department of medicine of this character is as likely as any other department to receive endowments from the public for the maintenance and extension of its work. Indeed, I am inclined to think at the present time that no other object embraced in a university curriculum appeals so strongly to the interests and sympathies of public-spirited and generous men and women of wealth as the problem of the prevention and cure of disease, which is the central function of the medical faculty of the university.

Besides putting the medical school on a proper and dignified basis, the university can render to this department another service of exceeding great importance. Men engaged in the active practice of any profession are apt to lose touch with educational ideals. Like the world about them, they want practical results and quick methods. The scholars and scientists, however, know that in educational matters the shortest distance even to a practical goal is not always a straight line. In order to be a capable physician or surgeon, a man needs to know a good deal more than the "practical" branches of the curriculum. Sciences apparently remote from those branches often illuminate them with new light. The facts which stimulate and fructify the mind of the investigator are often out-of-the-way, trivial and insignificant facts. Nothing in the life of Darwin has impressed me more than this very circumstance. Why, Darwin owed to the reading of a work on economics the germinal idea of his whole theory of evolution. Technical and professional education is narrow and arid unless interfused with a broad and generous culture in the sciences, and also in the liberal arts, and this is peculiarly true of medical education. So far as the sciences are concerned, the leaders of the medical profession are, I am glad to say, keenly alive to their needs. Besides good general training in physics, chemistry and biology—training which in most cases must be furnished by colleges and universities, as only a few high schools are equipped to supply it—these leaders are demanding thorough training in anatomy, histology, embryology, physiology, physiologic chemistry, pharmacology, pathology, and bacteriology. If to these indispensable sciences be added a reading knowledge of French and German, which is an almost indispensable tool for the medical man, it will be seen that a medical education demands a good training in the sciences and presupposes also a certain amount of linguistic discipline.

I have been specifying the scientific requirements of a medical curriculum from the point of view of medicine alone. But a university cannot be content to turn out men with merely a professional training. Physicians and surgeons are not mere practitioners; they are also human beings. And a university must think of training them for manhood and citizenship, as well as for the

practice of medicine or surgery. Now we have reached a point in the higher education of this country in which it is recognized that the proper time to begin professional work or to specialize with reference to that professional work is at the end of the sophomore year in college. I have no time here to argue this position. But I may say that it is a conclusion which has been reached both by the National Association of State Universities and by the Association of American Universities; the former organization embracing all the state universities of the country, and the latter a score or so of our foremost universities, both state and endowed. Perhaps the position of the Association of American Universities would be more accurately described if I stated that its desideratum is a minimum of two years of college work as a basis for professional work, and that some of the institutions embraced in that association would prescribe even a longer time. The important point is that both these organizations, which include all the leading universities of the country, demand that at least two years shall be spent on liberal education before undertaking professional education or specializing with a view to it. I am myself in hearty accord with this program. I should like to see our schools of medicine, law, and engineering reorganized with reference to it. And I am glad to say that a movement of that kind is now in full force in our schools of law, and especially in our schools of medicine. While Johns Hopkins in 1893, Harvard in 1900, and Cornell in 1908, demanded a degree in arts or science of students in medicine, a score or more of medical schools now require two years of college work, and about the same number now require, or are soon to require, one year of college work which shall include the courses in physics, chemistry and biology.

So far as this latter group is concerned, the requirement of a year of college work is probably due to the necessity of providing satisfactory instruction in physics, chemistry and biology. But as this departure breaks with the traditional high-school requirement for admission to the medical course, it prevents the high schools from continuing to be feeders of the medical colleges, and yet it does not establish a preliminary education sufficiently high to command the confidence and the patronage of college men. The chances are, therefore, that this arrangement will prove only a provisional one, and the institutions which have adopted it will either rescind their action and re-establish their connections with the high schools or prescribe a preliminary education of two years in arts and sciences, with a view to attracting the patronage of college undergraduates. It has not, I think, been sufficiently considered that when a medical college once severs its educational connections with the high schools it may so far as the effects on attendance are concerned almost as well prescribe two years of college work as one, and pretty nearly as safely three years as two.

Another service which the universities should render to the medical college is the determination of the question, What subjects of study should enter into the education of prospective physicians and surgeons? Assuming, that is to say, that candidates for the medical degree will have at least two years of study in a college of arts and sciences, the question is, What subjects shall they study? The criterion in answering this question should undoubtedly be the requirements of a liberal education. And it frequently happens that in the case of a professional subject like medicine the requirements of a liberal education in arts and sciences coincide to some extent with the scientific conditions which the medical profession would like to see fulfilled before students enter the medical college. I believe that a perfectly satisfactory adjustment of the problem can be worked out along these lines. I am well aware that this has not been the prevalent point of view. On the contrary, we have had two extreme positions more or less contradictory, which seemed to exclude a middle ground on which educators and medical men might alike agree. These two conflicting views have been voiced by the advocates of liberal education on the one side and of professional education on the other. The former have been in the habit of insisting that an A.B. degree should be a condition of admission to a medical college without much regard to the subjects embraced in the A.B. curriculum, provided only that a liberal education might be claimed on the basis of that A.B. degree. I believe that the underlying desideratum of these advocates was a classical education.

Opposed to them stood the other party made up mostly of medical men who insisted that an A.B. course in itself was of very little value as a preparation for medical studies. What they desired was a preliminary education in the pure sciences: physics, chemistry, biology, comparative anatomy, etc., on which the medical sciences were based. Between these two schools there has in the past been little agreement. But I believe that the time has come for a satisfactory adjustment of the problem.

I have already stated that the foremost educators today agree in demanding that the first two years of the college course shall be required of students who intend to enter such professional schools as law and medicine. These educators, furthermore, have in the course of the last two years come to a pretty close agreement as to the content of the curriculum of these two years of college study. They are agreed that it should embrace English, history, economics, one or two foreign languages, and mathematics, and one or more of the following sciences: physics, chemistry, biology, geology or botany. Such a curriculum furnishes the prospective medical student not only with subjects which are requisite to a liberal education, but also with subjects which form the best preparation for the subsequent study of medicine. Do you ask me what studies I would prescribe for this prospective medical student? I answer at once the English language and literature, French and German, history, economics, advanced algebra and trigonometry, and chemistry, physics, and biology. To these I would add a subject which I never see mentioned by advocates of either of the extreme positions I have already described. I mean the important subject of the study of the mind, and more particularly those aspects of it which are embraced in the modern science of experimental psychology. Considering the close relation between mind and body and the dependence of some diseases on mental conditions, I am often amazed that medical men fail so completely to realize the importance of the study of the sciences of mind as a part of that curriculum of the preliminary education they lay down for prospective students of medicine. I believe that in the first two years of a college course there is time to include psychology with the other studies in liberal arts and sciences which I have already specified. And I do not hesitate to assert that a young man who has received a thorough training in these subjects may, on the one hand, be regarded as a liberally educated man, and, on the other, as scientifically qualified for admission to a medical college and the successful study of the sciences prescribed in the first year of the medical curriculum.

The last service I shall mention which a university could and should perform for a medical college is to provide it with capable and devoted teachers and investigators imbued with the spirit of research. I do not think that the medical profession, and I am sure that the general public does not realize the nature of the change which the advances in modern science make necessary in the faculties of our medical schools. In the commercial and private-enterprise medical colleges, a number of practicing physicians and surgeons came together and devoted the fag end of their time to the instruction of students in medicine. Not only were these men not scientifically prepared for the task they assumed, but their interests lay in the practice of their profession, and the one object they had in view in establishing a medical school was to enlarge their medical practice and make it more lucrative. Now the authorities of our universities know that we cannot have efficient teachers and fruitful investigators, first, unless they are thoroughly trained for their work, and, secondly, unless they devote their whole time and energy to that work. The staffs of our medical colleges are sadly in need of reorganization under the guidance of this criterion. If our medical colleges are to rank with other colleges in the university, it can only be because the teachers and investigators on the staff bring undivided hearts to their work and render the same whole-souled service. It is practically impossible for a man to have a large and successful practice and to be at the same time a scientific and efficient teacher and investigator in medicine. I lay it down, therefore, as a first condition for the elevation of our medical colleges, that their chairs shall be filled by teachers and investigators of the highest scientific standing, who devote their entire time and energy to the work of instruction and investigation. There is no difficulty in applying this criterion to the professorships represented by the first two years of the medical curriculum—to subjects like anatomy, physiology, biochemistry, pathology, bacteriology, etc. I recognize, however, that there is a difficulty when we come to the professional and practical branches embraced in the last two years of the curriculum—medicine, surgery and obstetrics, not to speak of the minor specialties. Yet I am confident that it is impossible, under the present system of appointing to these subjects distinguished practitioners who continue in unrestricted practice, to produce satisfactory results in the work of instruction and investigation in these fields. I recognize, on the other hand, that men are not qualified to teach medicine, surgery, obstetrics, children's diseases, and other special diseases, unless they are engaged in the treatment of these diseases. It looks, therefore, as though a satisfactory solution of the problem of thorough and scientific instruction and investigation, both in the major and minor practical branches of the curriculum, would be an impossibility. I hope at any rate that I have stated the problem and shown the supreme importance of finding a solution. No solution will be satisfactory which does not do justice to the inexorable demands made by modern science on the teacher and investigator, and at the same time to the necessity of constant practical experience as a qualification for professorships in the practical branches of the curriculum. If I may venture to make one suggestion in the way of a positive solution of the problem I have stated, it would be that future professors in medicine, surgery, obstetrics, and similar branches in our best medical colleges will give a fixed portion of their time and energy to the work of instruction and investigation in the medical college. I should not be content with their evenings or even with their afternoons. Teaching and investigation demand not only their best powers, but their best powers when they are fresh and capable of their highest exercise. Keeping this consideration in mind, I would suggest that their forenoons might be devoted to the work of the medical college. And if the rest of the day were devoted not to general practice, but to consulting practice, or to practice in a hospital owned or controlled by the medical college, we should have the best solution of the problem I can think of at the present time.

I have been speaking of the services which a university can and should render a medical college. I have spoken also of the unsatisfactory condition in which much of our medical education is at the present time. But I cannot conclude without calling attention to the enormous progress which has been made in the last few years, and I want finally to express my own belief and conviction that there is no subject embraced in the purview of our universities in which such rapid progress in recent years has been made, both in instruction and investigation, as in medicine, and there is no subject in which I look toward the future with more hopefulness and confidence of results, great, fruitful, and beneficial to mankind.

THE ADMISSION RATE FOR TUBERCULOSIS AMONG MERCHANT SEAMEN DURING THE PAST TWENTY YEARS

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The figures presented herewith will, I think, be a surprise to many people, even to some of the medical officers of the Public Health and Marine-Hospital Service who have been active in bringing about the result which the figures indicate. A few words of explanation are necessary before the figures themselves are presented.

In 1893 Passed Assistant Surgeon J. O. Cobb of the service contributed to the annual report of Surgeon-General Wyman a strong plea for the establishment of special hospitals for the care of tuberculous seamen. The following year Passed Assistant Surgeon Bratton submitted a very strong plea for the same action. Surgeon-General Wyman took up the plan at once and quickly secured the use of the abandoned military reservation at Fort Stanton, New Mexico. The original plan of Dr. Cobb was to have two sanatoriums, one on the Atlantic, in North Carolina mountains, and one in California; but lack of funds, together with the theory, much more generally held a dozen years ago than now, that tuberculosis necessarily did better in the arid Southwest than elsewhere, led to the opening of one general sanatorium at Fort Stanton.

The controlling reason for the establishment of the sanatorium was the fact that under conditions as they then existed patients who got well enough to demand their discharges went at once aboard ship, to spread the infection among their shipmates and again to break down themselves under the strain of their occupation and the stress of their unfavorable environment. The bad cases remained in hospital and were comparatively harmless, except in the smaller hospitals where they could not be put in wards by themselves.

The effect of all this was that the patients who should have had a good chance for recovery not only lost it, but became the means of actively producing other

cases. Moreover, the patients were averse to entering hospitals, and as long as they could get about preferred to come at long intervals to our out-patient dispensaries, as the figures to be here presented clearly show.

It was believed that by sending the favorable cases to Fort Stanton they could not only have a better chance for recovery, but, what was much more important, they would lessen the active foci of infection among their fellows. At first only selected cases were to be sent, but this was rather vague, as individual medical officers

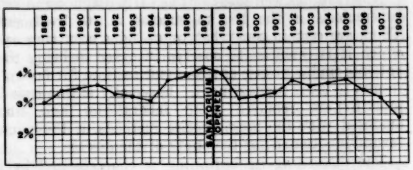

Chart 1.—Percentage of admissions for tuberculosis 1889 to 1908. Total admissions to hospital for all causes were 270,210. The average annual total was 12,867.

naturally differed a good deal both as to their prognostic skill and as to the appeal of the purely humanitarian side of the matter. The proportion of those sent to Fort Stanton has steadily risen, however, reaching 56.4 per cent. in 1908.

The sanatorium was opened in 1897, but only in a small way at first, so that the close of the fiscal year 1908 practically marked the end of the first decade of its existence. I have, therefore, taken the figures for the past twenty years, ten before the policy of segregation was begun and ten since.

During that time there were 270,210 patients admitted to U. S. marine hospitals for all causes; the

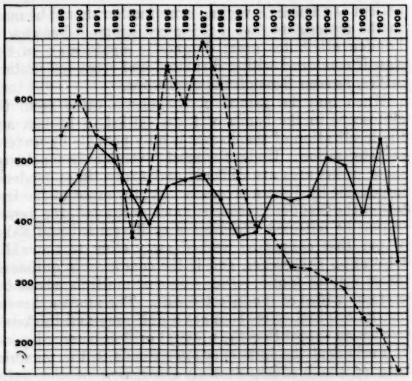

Chart 2.—Relation between numbers of out-patients (dotted line) and of hospital admissions (solid line). The heavy vertical line in the center indicates the date of beginning the policy of segregation.

annual admissions ranging, in round numbers, from eleven to fifteen thousand. These figures are large enough to amount to something, and their value is enhanced by the three factors which give peculiar value to all the admission statistics of the marine hospitals, viz.: The beneficiaries of the service are practically all adult males, from 21 to 50 years of age; the diagnoses are all made in strict accordance with an official nomenclature, and the figures are recorded and tabulated in all the hospitals in accordance with a uniform system.

To make the figures truly contrasting I have omitted the figures from the insular stations not existing prior to 1898. The following table shows the percentages of admissions for tuberculosis during the twenty years, and Chart 1 shows the same thing graphically:

TABLE 1

Year.	Percentage of Admissions for Tuberculosis.	Year.	Percentage of Admissions for Tuberculosis.
1889	3.42	1899	3.18
1890	3.47	1900	3.15
1891	3.67	1901	3.30
1892	3.33	1902	3.66
1893	3.20	1903	3.57
1894	3.08	1904	3.64
1895	3.79	1905	3.78
1896	3.90	1906	3.40
1897	4.19	1907	3.15
1898	3.98	1908	2.53

At first glance one would say that the figures represented an almost complete failure to secure the result aimed at. The rate for 1908 is only 1.19 per cent. less than that of 1889, while it is only 1.64 per cent. less than the rate of 1897, the year the sanatorium was

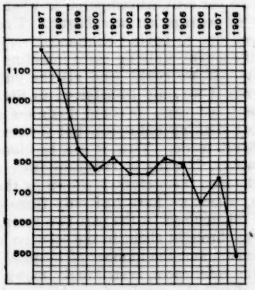

Chart 3.—Total admissions for tuberculosis (out-patients and hospital patients) since policy of segregation was initiated.

opened. The real result is seen, however, when we compare these figures with those of the out-patient records.

I therefore present Table 2, which shows the totals of out-patients treated for each of the twenty years, the admissions to hospital for the same years and the total in each case:

TABLE 2

Year.	Out Patients.	Hospital Patients.	Total.
1889	543	437	980
1890	605	474	1079
1891	547	529	1076
1892	526	500	1026
1893	376	443	819
1894	465	395	860
1895	654	457	1111
1896	592	469	1061
1897	696	475	1171
1898	625	439	1064
1899	470	376	846
1900	395	383	778
1901	376	441	817
1902	329	438	767
1903	321	441	762
1904	304	502	806
1905	293	496	789
1906	247	418	665
1907	222	533	755
1908	157	342	499

This shows that the total admissions in 1908 are only 46.7 per cent. of what they were the year before the segregation was begun. Now, of course, it would be absurd to claim that the present policy alone has resulted in more than cutting the rate in two. The fact is, of

course, that there was formerly much duplication, both by admission of patients to hospital who had previously been treated as out-patients and the readmission of hospital cases, and by out-cases being treated at different places. To what extent these readmissions would reduce the totals shown ten years ago it is impossible to say, but the figure was very considerable.

On the other hand, there is not the slightest doubt that admissions for all causes are now examined much more critically for signs of tuberculosis than was done fifteen years ago. I know that at the Marine Hospital in Chicago a very respectable per cent. of men recommended for transfer to Stanton have been ones seeking admission for various causes, medical and surgical, and found to have incipient tuberculosis. There can be no doubt that we are now diagnosing much more nearly all the tuberculosis presenting itself than we formerly did.

This increased accuracy of diagnosis compensates for a good many of the readmissions under the old order of things, but, assuming that there remain 20 per cent. of the readmissions to account for, a very liberal estimate, we would still have the astonishing and gratifying result that we have reduced the amount of tuberculosis among the beneficiaries of the service at the present time by more than 25 per cent. as compared to what it was when the policy of segregation was begun. Unquestionably this has been due to having eliminated very largely the chance of the active, walking cases infecting their mates aboard ship. If we could send all the out-patients to hospital, even if we only transferred to Stanton the 56 per cent. sent last year, we could doubtless in five years make a more striking reduction, but for several reasons this is difficult to do. That it can be closely approximated, however, if care is taken to fully explain the matter to the men themselves, is shown by the experience in Chicago, where we have had only three out-patients treated for tuberculosis in the past two years.

The change brought about in the relation between out-patient numbers and the number of hospital admissions, as well as the total cases, is strikingly shown in Chart 2.

Chart 3 shows the result of combining the total figures, and it shows, I think, that the Public Health and Marine-Hospital Service has a right to claim a very notable accomplishment in the direction of securing a decrease of tuberculosis among the merchant seamen.

THE EARLY DIAGNOSIS OF RENAL TUBERCULOSIS *

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No more striking instance of concerted action against disease by the combined efforts of the profession and the laity has ever been seen in this country than the war that is at present being waged against tuberculosis. The line of battle is being directed against the pulmonary form of the disease because this is its stronghold and the focus from which other organs become secondarily infected.

In the second annual report of the Phipps Institute of Philadelphia, an institution established for the prevention, treatment and cure of tuberculosis, may be found a resumé of the autopsy findings in sixty cases of advanced pulmonary tuberculosis, of which number thirty-five showed unmistakable evidences of renal involvement. It is hardly necessary, however, to repair to the tabulations of our large hospitals for a knowledge of the frequency of the disease in individual organs, because tuberculosis is always with us and there is no community that does not witness it in many of its varied forms.

The curability of phthisis in a majority of the early cases receiving proper attention is a well-established fact. With the advent of more positive means of diagnosis, the recognition of the incipient stage of tuberculosis in the kidney has become an added responsibility on the profession.

Albarran has well said: "The early diagnosis in renal tuberculosis is the key to success in its treatment." There are certain somewhat vague signs occurring early which it is essential to observe in order to bring these patients under proper environment in time for favorable results in their management. Especially is this true for practitioners removed from laboratories and unacquainted with the more precise methods of those more favorably situated for the study of the disease.

The disease at its beginning is characterized by an absence of symptoms on the part of the kidney, but in a majority of instances manifests its presence by vesical irritation. Because of these facts the earlier writers drew the erroneous conclusion that the bladder was primarily the seat of infection. More recent investigation, aided by the ureteral catheter, has proven its hematogenous origin.

The cases of patients presenting themselves to the physician because of frequent, painful or burning micturition without definite origin should at once excite suspicion, no matter how short the duration of the attack, and should call for a very thorough physical examination of the entire body, and especially of the lungs, the testicles, the epididymis, the seminal vesicles and the prostate. When early symptoms exist in the kidney region they are of little value, as slight pain and enlargement may mean only hypertrophy of the sound side. If the patient is a female a vaginal examination should be made in the attempt to find a thickened ureter. Fenwick of London attributes great diagnostic significance to this sign if combined with a displaced and retracted ureteral orifice, as seen through the cystoscope.

Much may be gained of diagnostic value from the cystoscope in the hands of those skilled in its use, and the localization of the disease is only possible by ureteral catheterization. Under the most favorable circumstances these procedures are difficult and many times rendered impossible by disease processes. At the onset of the irritation the bladder mucosa is much congested, the vessels cannot be outlined, bleeding is easily caused and flakes of pus that cannot be washed away cling to the walls. Ulceration supervenes, and if the condition is unilateral ulcers may be found, either single or multiple, about the ureteral orifice of the infected side. The mucosa, having lost its original color, becomes a dull gray and thickened to such an extent that the ureteral orifices become buried. If unchecked the inflammation extends to the musculature of the bladder, causing thickening of the walls, trabeculation, sacculation and sufficient contraction to render its capacity too small for sufficient media to allow investigation. The very early cases may show marked pathologic changes in the bladder mucosa, hindering many times the rapid catheterization which is essential if we are to guard against carrying the infection to fresh soil. If the catheterization cannot be accomplished easily and with the least possible manipulation of the cystoscope, it should be deferred until such time as the bladder may have been rendered sufficiently clean by daily irrigations.

* Read before the Northern Tri-State Medical Association (Michigan, Ohio and Indiana), at Fort Wayne, Ind., Jan. 11, 1910.

When the bladder involvement is more or less superficial it shows a strong tendency to heal without further aid than the removal of the kidney focus. The more persistent conditions call for heroic treatment, as they are many times the cause of more anxiety to both patient and physician than the original focus of the disease. After having discontinued the use of carbolic acid because of the pain incident to its application, I have resumed its employment with modifications. Instead of using 50 c.c. of the aqueous solution of carbolic acid, as advised by Rovsing, I find that the pain and collapse will not be encountered if smaller amounts are at first used, allowed to remain in the bladder but a few seconds, and the excess that may have clung to the walls washed out with a 30 per cent. alcohol solution. In this way a tolerance will be secured and the full amount may be employed later.

The positive diagnosis of renal tuberculosis is dependent on competent bacteriologic and chemical examination, and necessitates laboratory facilities and a knowledge of cystoscopic technic. In the most expert hands tubercle bacilli can be demonstrated in 75 to 80 per cent. of the cases. The sample of urine sent to a laboratory should not be less than three ounces. It should be drawn through a sterile catheter into a sterile bottle after having carefully cleaned the external parts. After several failures to find the organisms by the staining methods in vogue, resort must be had to the inoculation of guineapigs. While bacteriuria without a kidney lesion is not common, it is a possibility, rendering the demonstration of the bacilli in the absence of pus of little diagnostic significance. Tuberculin may be employed as a diagnostic aid, but as a matter of fact it has little value when compared with the laboratory methods. During the delays incident to the laboratory investigation and the return of reports, the bladder should receive daily irrigations to aid in the removal of inflammatory products constantly being poured into it from above, thus aiding materially in the localization of what might become an interstitial inflammation in the mucous membrane of the bladder.

With few exceptions it may be stated that a unilateral renal tuberculosis with the opposite kidney showing sufficient function calls for nephrectomy, but many of the patients entering the hospital are far removed from the early stages of the malady, and nephrotomy, or the opening of a perinephritic abscess, is many times a measure which must be resorted to for the saving of life. Many times these are examples of our sins of omission and a strong plea for the early recognition of the disease and the removal of morbid processes.

However, I cannot agree with the more or less widespread opinion that in the early stages and under the conditions above cited the kidney must inevitably be removed. Post-mortem examinations many times disclose healed tubercles of the kidney as well as of other organs. Complete cures are at times shown in cases where the existence of the disease was easily demonstrable. I have recently had the opportunity to follow a case that very aptly illustrates my point.

History.—A female patient, 22 years of age, consulted me in July, 1909, for frequent and burning micturition. She was very emphatic in her statement that it had been of only two weeks' duration, and that she had never experienced the trouble before the present attack. A bacteriologic examination of the urine from the bladder contained tubercle bacilli, and the subsequent samples obtained by ureteral catheterization revealed a right unilateral infection with the opposite kidney normal. The sediment of the urine from the right side also contained pus-cells, but no other organisms. Because of the short duration of her trouble, coupled with the fact that the patient had financial support sufficient to procure for her the most favorable environment, I did not advise operative procedure, but sent her to a cool climate for the summer, where she lived out of doors both night and day. She also had a sufficient and well regulated diet and received daily bladder washings, with the injection of a 2 per cent. solution of iodoform in sweet oil twice a week. She returned to me in October having gained twenty-one pounds in weight, her cystitis was cured and her urine showed an absence of both bacteria and the products of inflammation.

While I am well aware that the kidney in her case may harbor a latent infectious process, I think no one could at the present time advise its removal, more especially as the patient is a member of a family of more than average intelligence and has been advised of the possibility of a recurrence and the consequent necessity of surgical measures. Such methods are only applicable in selected cases, in which the most favorable conditions are obtainable; nor should the expectant treatment be persisted in if beneficial results are not immediate. As the means for earlier diagnosis in renal tuberculosis become more common there will be more cures without operation reported, and more rapid results will be obtained by local application of remedies to the kidney pelvis.

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A STUDY OF THE EYE IN MENTAL DEFECTIVES *

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It is difficult to understand why the fundus examination in idiocy has been so little emphasized. Probably the examination of the fundus in such cases, being so extremely difficult, may account in part for the lack. Possibly the negative findings of Moss[1] have also deterred some from the study. He examined 116 feeble-minded children in Berlin. The study showed but 2 cases with alteration in the fundus. His cases, however, were not drawn from the low-grade idiots.

The much more careful work of Gelfe[2] on 578 cases throws more light on our subject. His cases comprised (1) 192 mentally backward boys and 192 girls of the same class; (2) 25 boys and 21 girls who were weak-minded (feeble-minded of our designation) and 47 boys and 30 girls who were unteachable imbeciles (imbeciles of our classification), and, finally, 42 boys and 28 girls of the low-grade idiots. All the cases were examined in the institute for mental defectives at Berlin. But 27.5 per cent. of all Gelfe's cases showed normal eyes. These results are quite in accord with our findings. Gelfe's idiots showed a percentage of 43 for normal idiot fundi as compared with 56 for weak-minded and 83 for simply backward children.

Many writers concern themselves with functional imperfections only in examining for visual defects in the mentally deficient child, which accounts for the apparent discrepancy of data. It may be said in passing that there seems to be unanimity of opinion that eye

* Read before the Pediatric Section of the New York Academy of Medicine, April, 1909.

1. Legrange and Valude: L'Encyclopedie française d'opthalmologie, 1905, iv, 34.

2. Gelfe, T.: Relationship between Visual Organ and Feeblemindedness (Karlsruhe), Samml. a. d. Geblete d. Augenh. Hälle a. S., 1904.

defects are much more frequent in mentally defective children, and that these defects react in further crippling the child's mental development.

Our study of the eye in the mentally defective child was undertaken with a twofold purpose:

1. From studies made in 1907 by Clark and Tyson[3] into the nature of the eye changes found in dementia præcox it was shown that a fairly constant eye syndrome was present in that mental disorder, embracing, among other signs, a mild grade of optic nerve degeneration, which was thought to be of autotoxic origin. In the numerous discussions of the paper held before various societies on the occurrence of the optic nerve changes in dementia præcox, it was thought that the syndrome was due more to a strong tendency to neural degeneration in the precocious dements than to a particular autotoxin, and that careful examinations into the allied states of mental degeneracy so ideally presented by such conditions as imbecility or idiocy ought to throw light on this phase of the subject. And, indeed, it has. Fully three-fourths of all cases of idiocy of our present study show varying degrees of a retrobulbar neuritis of a degenerative character.

2. The second object of inquiry was to note the presence or absence of pathognomonic structural defects in the eyes of feeble-minded and idiots comparable with the other grosser mental and physical defects so well known. The negative findings on this second part of our study have been disappointing. It would seem that the eye defects in idiocy do not usually extend beyond those of mere functional incompetence of vision. Moreover, the defective central innervation may explain the lack of visual acuteness, in defect of attention, as well as defect in perception of color, etc.

Our study was made in our Randall's Island service, which gives a range of more than 1,000 cases to select from. Although 150 cases were selected, but 129 patients could be examined carefully. Fifty cases, each, of feeble-mindedness, imbecility and idiocy were chosen. The patients of the feeble-minded class were of the highest teachable grade. Those of the imbecile class were of the non-teachable grade, but able to care for themselves and do simple tasks about the wards, while those of the idiot class were the lowest types of helpless cases in the entire service. Only idiopathic cases were studied.

Changes in external examination of the eyes were found in but few patients; unilateral ptosis was noticed in two feeble-minded children and in one idiot. Strabismus was found in one feeble-minded child. The pupillary reflexes to light, accommodation, etc., were present in all, but sluggish in the idiots. There was rigidity of the pupils in one idiot. The acuity of vision, the fields of vision and the refractive errors could not be determined, owing to lack of accurate cooperation because of mental defect. By means of retinoscopy there were found 4 cases of myopia of high degree, 3 of hypermetropia and 15 of astigmatism of various types.

The ophthalmoscopic examination was made by Dr. Cohen by means of the indirect method, with a candle as the source of light; complete mydriasis was obtained by the use of atropin sulphate solution. In only 106 of the 129 could the fundi be properly examined.

Feeble-Minded.—But 9 of the 29 examined showed normal fundal appearances. Pallor of the temporal half and edema of the nasal half of the disc were present in seven cases. Two patients showed slight indistinctness of the disc and one well-marked neuritis. Evidence of an early stage of atrophy (as shown by pallor of disc) was found in 6 cases. In none was there advanced atrophy present. Dilatation of veins was seen in four patients.

Imbeciles.—Of the 24 examined there were 15 in whom the eyegrounds were normal in appearance. Only 4 patients of this group showed pallor of the temporal half and edema of the nasal half of the disc. Slight indistinctness of the disc was present in one patient. Pallor of the disc was seen in these cases. One patient showed well-marked atrophy.

Idiots.—Normal fundal appearance was present in but 2 of the 53 cases of this group. Temporal pallor and nasal edema were seen in 13 cases. One showed general congestion of the entire disc, 8 presented a generalized pallor of the discs. Optic atrophy was present in 3 cases; the veins were dilated in one. One patient, each, showed choked disc, thrombosis of the central vein, retinal congestion, retinal hemorrhage.

No specific cause can fully account for the degenerative changes which we have noted in the optic discs of idiots. It is not necessary or desirable to review in detail the considerable literature of pathogenesis of idiocy. It is doubtless likewise unnecessary to say that, after all possible causes of idiocy have been considered, a very large number of idiots remain unaccounted for. We are content at this time to call attention to the fact that in the majority of the cases idiocy is attended by fairly constant and definite changes in the optic nerve.

In conclusion, it may be said that our study shows there is probably a well-marked tendency to neural as well as psychic degeneration in the great majority of all grades of idiots. The research is submitted as a contribution to the clinico-pathologic study of idiocy and degeneration.

84 East Fifty-sixth Street—34 East Fifty-eighth Street.

3. Tyson, H. H., and Clark, L. Pierce: The Eye Syndrome of Dementia Præcox, THE JOURNAL A. M. A., May 2, 1908, l, 1415.

CONGENITAL SACROCOCCYGEAL CYST OF EPENDYMAL ORIGIN

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Although it is the primary purpose of this paper to report a case of congenital cystic tumor occurring in the sacrococcygeal region, a few words regarding the general subject of tumors situated in this locality will help to make clear the pathogenesis of this case. Therefore, after considering the general classification of sacrococcygeal tumors and reviewing the cystic type in some detail, the embryology of the caudal end of the human embryo will be considered before taking up my case.

The congenital dorsal-sacral hernia containing bowel and bladder must be considered in connection with tumors of this region. Lotzbeck[1] gathered from the literature 6 such cases, which he divided into simple and combined cases. Under the heading of simple he cites three cases: two were hernias of a part of the bowel with a normal sacrum, reported by Bezold[2] and Schreger,[3] respectively, and one case of hernia of a part of the bladder with a normal sacrum, reported also by Schreger. Under the heading of combined cases he cites also 3 cases: one a dorsal hernia combined with a

1. Lotzbeck, C.: Die angeborenen Geschwülste der hinteren Kreutzbeingegend, Munich, 1858.
2. Bezold, von: Sammlung seltener chirurgischen Beobachtungen und Erfahrungen, Arnstadt, 1812.
3. Schreger: Chirurgische Versuche, ii, 164, etc.

cyst, in which case the sacrum was normal, reported by Meinel,[4] and 2 cases with defective sacrum; one reported by Schmidt[5] in connection with a cystic tumor and absence of the sacrum, and another reported by Stafford[6] in combination with a spina bifida.

Analogous to the bony defects and accompanying complications found in the cervical, dorsal, and especially in the lumbar region, we note that spina bifida, both anterior and posterior, and spina bifida occulta, with meningocele and myelomeningocele, are likewise to be reckoned with in the classification of tumors of the sacrococcygeal region. Nieberding,[7] in an excellent article, has collected 9 cases with anterior sacral meningocele. Lotzbeck also reports 9 cases of congenital hydrorachis in the sacral region, 3 of which were without spina bifida and 6 with spina bifida. These have been confused with another group of tumors, the genesis of which is yet but little understood, although histologically they are readily classified as cystic lymphangiomas, angiosarcomas or peritheliomas (coccygeal gland?) and simple lipomas. A combination of the former (meningocele, etc.) with the latter (lymphangiomas, lipomas, etc.) is also found and deserves special classification according to von Bergmann.

Aside from these hernias and spinal defects and neoplasms, such as lipomas and lymphangiomas which have no character peculiar to this region, the congenital pathologic productions of the sacrococcygeal region may be classified according to the more modern authors (Herrmann and Tourneux,[8] Tillmanns,[9] E. von Bergmann,[10] Stolper,[11] Marchand,[12] Borst,[13] Calbet[14]) into four principlal groups: the caudal appendages, the dermoid cysts (pilonidal cysts and sinuses), mixed tumors and fetal inclusions.

I. CAUDAL APPENDAGES

The caudal appendages are of two types: the pseudo and true tail formations. The pseudo-tails are devoid of vertebræ and are due to the abnormal persistence and hypertrophy of the caudal filament (Herrmann and Tourneux[8]), or they may be formed in some cases by lipomas which have simulated the shape of a caudal appendage. The true tail formations (Förster[15]) consist of new growth of bone and cartilage or are prolongations of the sacrum.

II. DERMOID CYSTS

The sinuses and simple dermoid cysts, or pilonidal cysts, so called from the fact that frequently they contain nests of hair, occurring in the median body line, between the buttocks at lower end of sacrum and coccyx, though congenital, are often first noted during early adult life after irritation or inflammation has called attention to this region. Various theories have been advanced to explain their genesis. Hodges explained them as congenital dimples, being filled in by hair rubbed off from the body; the dimple being due to imperfect union of the lateral halves of the body. Féré thought them due to incomplete closure of "posterior umbilicus," meaning the lower end of the medullary canal. Lannelongue assumes that there is an extension inward of the skin which is bound down to the coccyx. Mallory,[16] to study this condition, made microtome sections through the sacrum and coccyx of embryos at various ages. He says:

> These cases show that in fetuses of three to six months there is very frequently present over the coccyx, a canal lined with epithelium, in some cases connected with the skin, in others not; in some situated near the skin, in others near the coccyx. It seems much more likely that they are due to incomplete obliteration of a former canal, and extending as they all do upward and posteriorly to the coccyx, the medullary canal seems the most likely origin.

Tourneux and Herrmann[17] had earlier noted these epithelial rests of the medullary canal (*vestiges médullaires coccygiens*) which contracted adhesions to the deep layers of the skin, but explain the dimple or *fossette coccygienne* as due to the traction, during downward growth of coccygeal end of vertebral column, by the caudal ligament, which is a bundle of fibers connecting the *vestiges coccygiens* to the extremity of the coccyx. The anatomic facts which Tourneux and Herrmann presented in 1887 in support of this mechanical explanation have been confirmed by Ernst Unger and Theodor Brugsch.[18] Further reference will be made to this subject in the discussion of the embryology.

III. MIXED SACROCOCCYGEAL TUMORS

The mixed tumors (cystosarcomas, etc.) of the sacrococcygeal region present a very complex structure and have been found in the following formations (Herrmann and Tourneux, Lotzbeck, Borst and others); cysts of more or less voluminous size, the simple or stratified epithelial lining of which is essentially polymorphous and may or may not have cilia; epithelial masses of glandular aspect; cartilaginous or bony masses; smooth and striated muscle fibers; masses of nervous substance; the whole distributed without any apparent order in a framework of connective tissue.

These tumors, according to Borst,[19] Herrmann and Tourneux,[8] von Bergmann,[20] Braune,[21] Lotzbeck,[1] result from the abnormal hyperplasia of a group of organs, belonging to the subjects which carry them. They are monogerminal—that is, they have arisen from a single impregnated ovum and the cysts and neoplastic masses result from developmental errors, excessive hyperplasia of one or more elements, ectopia of contiguous tissues and similar errors in development. It appears very probable that the various transitory organs are able to give birth, each to that which concerns it, to the neoplasms, the origin of which will be indicated by the analogy of their histologic composition. These transitory structures are: (a) the caudal medullary tube (*les*

4. Meinel: Prag. Vrtljschr. f. pract. Heilk., 1849, iii, 116.
5. Schmidt: Jour. d. pract. Arznk. u. Wundarznk. (Hufeland's), iv, 147.
6. Stafford: A Treatise on the Injuries, the Diseases and the Distortions of the Spine, London, 1882, p. 48.
7. Nieberding: München. med. Wchnschr., 1904, ii, 1384.
8. Herrmann, G., and Tourneux, F.: Sur l'origine des Tumeurs congénitales de la région sacro-coccygienne, Jour. de l'anat. et physiol., Paris, 1905, xli, 113.
9. Tillmanns: Zur Enstehung der angeborenen Sakraltumoren, etc., Deutsch. med. Wchnschr., 1904, xxx, 629.
10. Bergmann, E. von: Berl. klin. Wchnschr., 1884, No. 48.
11. Stolper: Die angeborenen Geschwülste der Kreuzsteissbeingegend, Deutsch. Ztschr. f. Chir., 1899, L, 207.
12. Marchand: Sacraltumoren, Eulenberg's Real-Encyclopedie, 1899.
13. Borst, M.: Die angeborenen Geschwülste der Sakralregion, Centralbl. f. allg. Path. und path. Anat., 1898, ix, 449.
14. Calbet: Contribution à l'étude des tumeurs congénitales d'origine parasitaire de la région sacrococcygienne, Thèse de Paris, 1893.
15. Förster: Handbuch der allgemeine pathologische Anatomie, 1855.
16. Mallory: Sacrococcygeal Dimples, Sinuses and Cysts, Am. Jour. Med. Sc., 1892, New Series, ciii, 263.
17. Tourneux, F., and Herrmann, G.: Sur la persistance de vestiges médullaires coccygiens pendant toute la période foetale chez l'homme, etc. Jour. de l'anat., 1887, xxiii, 498.
18. Unger, E., and Brugsch, T.: Zur Kenntniss der Fovea und Fistula sacrococcygea, S. caudalis, etc., Arch. f. mikr. Anat., 1903, lxi.
19. Borst: Ein Sacraltumor von hirnartigen Bau, Beitr. z. path. Anat., 1902.
20. Bergmann, E. von: Zur Diagnose der angeborenen Sacralgeschwülste, Berl. klin. Wchnschr., 1884, No. 48.
21. Braune: Die Doppelmissbildungen und angeborenen Geschwülste der Steissbeingegend, Leipsic, 1802.

vestiges médullaires coccygiens); (b) the primitive streak and neurenteric canal described by O. Hertwig,[22] von Spee,[23] Eternod,[24] Nasse,[25] Hildebrand;[26] (c) postanal gut or caudal intestine described in the human being by His[27] and by H. Fol;[28] (d) chorda dorsalis; (e) the coccygeal gland. Other writers, Förster (1861), Virchow (1869), Stolper (1899), Marchand and Bonnet, considered these tumors to be of a bigerminal origin, corresponding to a second embryo in a more or less rudimentary or undeveloped stage.

IV. FETAL INCLUSIONS

The sacrococcygeal teratomas of a bigerminal nature are characterized by the existence of well-formed rudimental organs which one is not able to attribute to the development of the caudal extremity of the carrier. When this bigerminal formation is complete we have the double formation, as Siamese twins. More often it is incomplete, as when an arm, leg or foot is attached to the sacrum or a part is included under the skin. Since the case to be reported belongs to the third group of tumors—the mixed tumors, monogerminal in origin—and is of the cystic type, these cystic tumors will be considered in some detail.

MIXED TUMORS—CYSTIC TYPE

The cystic tumors form by far the overwhelming majority in the run of congenital sacral tumors. The earlier authors recognized a conformity of these tumors with those that occurred in the neck, back and in axillary region of the new-born, after they became aware that the similarity with sacral spina bifida was only outward, the etiologic factors of one having nothing to do with that of the other. Wernher,[29] in considering the "hygroma cysticum congenitum" in various parts of the body, after careful sifting and arrangement of material reported up to that time, reported under the term, "hygroma cysticum congenitum sacrale oder perineale," only those cases which were clearly of a pure cystic type. These cases had been reported by Slevogt,[30] Gemmil,[31] Saxtorph,[32] Buxtorf,[33] Schmidt,[34] Mechel,[35] Löffler,[36] Osiander,[37] Otto,[38] Terris,[39] Faber,[40] Heineken.[41] Lotzbeck[1] later, in considering the congenital sacral neoplasms, gathered similar cases under the heading of *reine Cystengeschwülste* which had been reported by Gläser,[42] Schindler[43] and Elässer.[44]

These tumors are sometimes confined to the sacral region, sometimes to the perineal, but often a separation of these localities is not possible, as the tumor may be situated in the sacral as well as in the perineal region, extending either from the former into the latter or from the perineal into the sacral region.

The cysts may vary from the form of a half sphere to a complete sphere, or may have the shape of a pear, bottle or a cone. The latter form is more commonly induced in cysts of considerable weight which have changed with their growth and suffered various modifications. Cysts with broad insertion and flat in form may be equally developed in the median line of the body. With a pedicle or string insertion, however, the tumor generally develops to one side. The pedicle itself is generally inserted into the posterior or lateral surface of the sacrum, and less frequently into the anterior excavation of the sacrum.

The growth of the tumor, on account of its weight, is generally downward, so that it may reach to the knees or it may extend forward, as in my case, into the perineum. Less frequently the extension is upward into the lesser pelvis or even into the greater pelvic cavity. These three regions, however, may be equally involved by the same cystic tumor, as in the case reported by McCarthy,[45] in which at necropsy the intestines were found pressed forward by a large unilocular retroperitoneal cyst which extended from the upper part of the perineal growth to the diaphragm.

The size is variable; it may be from the size of a man's fist to the diameter of the adult head, but as a rule the tumors are about the size of a new-born head. Excessive growths may occur, the tumor being as large as the head and trunk of a child (Otto), or even as large as the child itself (Gemmil). The growth of the tumor as a rule is in proportion to that of the child, but may increase rapidly from the proportion of an apple to the size of a head in six months (Himly). The size of the tumor may be but slightly increased after birth, remain unchanged, or indeed through pathologic processes decrease in size. Neighboring organs, especially the rectum, bladder and genitalia, may be displaced and function disturbed, and atrophy of gluteal and rectal muscles, as well as of the external rotators of the leg, may follow extension and pressure from the tumor.

The surface may be of normal skin, varying in thickness; most frequently it is very thin, but at times it is changed to a thick sclerotic layer. Pathologic processes, by quick growth, sudden stretching, chemical substances, injuries and infection, often set in and the tumor becomes reddened and a suppurating condition results soon after birth. Frequently pus formation has set in before birth because of long-continued labor. Indeed, scars in skin over tumors of the new-born show signs of such a process having gone on during intra-uterine life. The outer skin in some cases is set with tufts of hair which may be fine or coarse, and long or short, and may differ in color in different individuals. The smooth, even, regular surface over the larger cysts is in contrast to the nodular, uneven surface corresponding to smaller cysts in the same tumor. The tumor is soft, fluctuates,

22. Hertwig, O.: Lehrbuch der Entwicklungsgeschichte, Jena, 1896, Ed. 5.
23. Spee, von: Beobachtungen an einer menschlichen Keimscheibe mit offener Medullarrinne und Canalis neurentericus, Arch. f. Anat. u. Physiol., 1899, p. 159.
24. Eternod, A.: Communication sur un œuf humain avec embryon excessivement jeune, Monit. zool. ital., 1894, v, 70; Arch. ital. de biol., 1894, Suppl. xii, et xiv.
25. Nasse: Beitrag zur Genese der sacrococcygealen Teratome, Deutsch. Arch. f. klin. Chir., 1893, xlv, 700.
26. Hildebrand: Ueber angeborenen cystöse Geschwülste der Steissgegend, Arch. f. klin. Chir., 1895, xlix, 192.
27. His: Anatomie menschlicher Embryonen, Leipsic, 1880-1885.
28. Fol, H.: Embryon humain de cinq millimètres et six dixièmes, Rec. zool. suisse, 1884, i, 357.
29. Wernher, A.: Angeborenen Kysten Hygrome, Giessen, 1843.
30. Slevogt: Programma de singularibus quibusdam partus impedimentis, Jehae, 1704.
31. Gemmil: Medical Essays, v, part 1, p. 362.
32. Saxtorph: Soc. med. Havn. collectan., ii, No. 4, p. 25.
33. Buxtorf: Acta Helvet., vii, 108.
34. Schmidt: Jour. d. pract. Arznk. u. Wundarznk. (Hufeland's), 24.3, p. 147.
35. Mechel: Handbuch der pathologischen Anatomie, i, 372; Descriptio monstrorum nonnullorum, p. 40, tab. iv, f. 4.
36. Löffler: Neues Arch. f. Geburtsh. (Stark's), i, 1747.
37. Osiander: Handbuch der Entbindungskunde, B. i. Abt. 2, p. 757.
38. Otto: Seltne Beobachtungen zur pathologischen Anatomie—gehörig. 2te Sammlung. Monstrorum sexcentorum, etc., p. 329.
39. Terris and Sedillot: Recueil périod., 1806, xxvii.
40. Faber: Duorum monstrorum descriptio anatomica, Diss. inaug. Berol., 1827, c. tab. p. 548.
41. Heineken and Himly: Beiträge zur Anatomie und Physiologie, second installment, p. 79.
42. Gläser: Virchow's Arch. f. path. Anatom., xlii, Bd. 2, p. 3, Heft (1858).
43. Schindler: Deutsche Klinik, 1853, No. 19, Gaz. Med., 1854, p. 313.
44. Elässer: Würtemberg. med. Corr.-Bl., 1858, xxviii, No. 4.
45. McCarthy: A Case of Congenital Coccygeal Cyst in an Infant, Lancet, London, 1888, i, 920.

and its translucent quality—similar to the hydroceles—differentiates it from solid tumors.

EMBRYOLOGY OF THE CAUDAL END OF THE HUMAN EMBRYO

The embryology of the caudal end of the embryo has thrown much light on the origin of the sacrococcygeal tumors, and a brief outline of the derivatives of the three blastodermic layers will aid in the consideration of the pathogenesis of this case.

From the entoderm are derived the caudal intestine (post-anal gut), canalis dorsalis, chorda dorsalis and part of neurenteric canal (Fig. 1): from the mesoderm the vertebræ, the muscles, connective tissue and blood-vessels; and from the ectoderm the primitive streak, the medullary tube and its vestiges and the neurenteric canal (external part).

By the investigation of Ecker, His, etc., it has been demonstrated that the human embryo at the end of the first month has a caudal appendage analogous to that in embryos of other mammifera. At this stage the intestinal canal is continued much further down in the caudal end posterior to the proctodæum than is represented in Figure 1. But with the growth of the embryo and the disappearance of the caudal appendage, and opening of the anus through the proctodæum, that part of the gut posterior to the anus is obliterated. When, however, the obliteration of the gut is incomplete the vestiges may give rise to new growth, and thus we have the post-anal gut tumors.

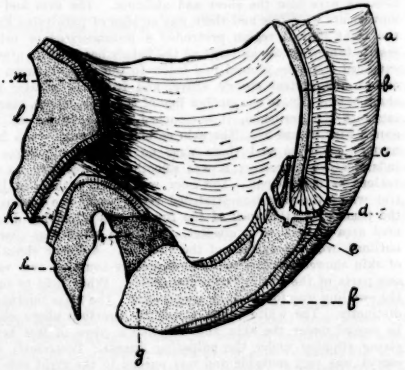

Fig. 1.—Sagittal section through lower end of body of embryo 2.11 mm. long (according to Eternod, from Kollmann's "Handatlas der Entwicklungsgeschichte des Menschens," fig. 79, 1907); a, neural plate; b, chordal plate; c, chordal canal; d, neurenteric canal; e, primitive intestinal cavity; f, primitive streak; g, caudal end; h, proctodæum, closed with epithelium; i, pedicle of allantois; k, allantois canal; l, wall of vitelline sac; m, primitive intestinal tube.
The drawings are by Miss M. von Stoesser.

The chordal canal (Fig. 1), which runs through the center of the primitive axis, is formed by invagination of the entoderm; and the opening of the canal posteriorly is called the blastopore. After the canal has acquired a not inconsiderable length its lower wall develops a series of irregular openings on its ventral side by which it comes in communication with the underlying yolk cavity. These openings grow until the ventral wall of the canal is entirely lost. The cells on the dorsal side of the notochordal canal, however, become thickened to form the anlage of the future chordal plate or notochord or, so called from its origin, the chorda dorsalis. The notochord anlage separates off and the entoderm proper closes across under it so that the notochordal band lies between the entoderm and the overlying ectoderm (floor of the medullary groove).

In a later stage the mesoderm grows across the median line of the embryo, completely surrounds the notochord and forms a special sheath about it, developing the future bodies of the vertebræ. As the vertebral column develops the notochord degenerates (Figs. 2 and 3). It first ceases to be continuous by breaking apart at points corresponding approximately to the center of each vertebra.

The ectoderm gives rise to the "lamina medullaris" (Fig. 1) or neural plate, which by deepening forms the neural groove, and the sides uniting above and then separating from the overlying ectoderm, shape this into the neural canal. At the posterior end of the lamina medullaris, and communicating with the primitive intestinal canal, is the neurenteric canal, which is thus formed, on the one hand, internally from the primitive, intestinal and chordal canals of entodermal origin, and, on the other hand, externally by the neural plate of ectodermal origin. The neurenteric canal normally becomes obliterated at a very early period, so early, indeed, that its existence in the human embryo has seldom been demonstrated. By its persistence, however, Meddeldorph and others explain the origin of certain brain-like structures in this region. The posterior portion of the medullary tube which extended far into the caudal appendage undergoes a process of obliteration analogous to that of the caudal intestine and neurenteric canal, but to the persistence of this medullary coccygeal vestige is attributed the presence of nerve tissue scattered between epithelial and connective tissue elements described by Tourneux and Herrmann[17] as *vestiges médullaires*, and also described by Mallory. To these structures also have been ascribed the origin of certain tumors of the mixed type containing nervous substance.

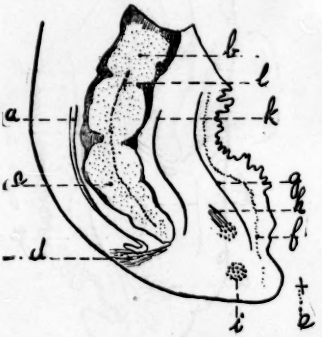

Fig. 2.—Sagittal section of caudal extremity of a human female fetus 7.9 by 10.5 cm. Enlargement 10/1 (from G. Herrmann and F. Tourneux, cited in Note 8); a, medullary tube, the atrophied end of which will form the paracoccygeal medullary vestiges, is turned backward and upward; b, vertebral column; c, coccygeal vertebræ; d, caudal ligament; e, anus; f, internal sphincter; g, longitudinal muscular layer of the rectum; h, levator ani; i, external sphincter; k, caudal artery.

According to Tourneux and Herrmann[17] (Figs. 2 and 3), at the commencement of the third month of fetal

life the medullary tube is prolonged to the end of the vertebral column, and at the last vertebra it is curved backward and becomes adherent to the deep layers of the skin. And at the end of the third month by the more rapid growth of the vertebral column than that of the soft parts, the portion of the medullary tube adjoining the vertebræ is dragged down with it and as the reflected portion remains attached to the external integument a curve is described by the neural axis, the branch of which that is in relation to the dorsal surface of the coccygeal vertebræ is termed the direct coccygeal segment (*segment coccygien direct*) and the portion directed upward and backward is termed the reflected coccygeal segment (*segment coccygien réfléchi*). In the fourth month the direct coccygeal segment atrophies and disappears, but the dorsal or reflected segment continues its evolution, and it is to the cellular masses constituting this segment that the authors apply the term *vestiges coccygiens* of the medullary tube. These medullary coccygeal vestiges attain their maximal development during the fifth month, when they are composed of

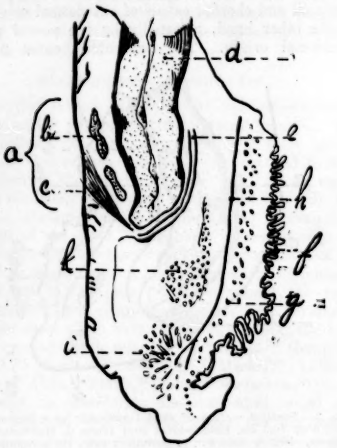

Fig. 3.—Sagittal section of caudal end of human female fetus of 16 by 23.5 cm. Enlargement 8.5/1 (from G. Hermann and F. Tourneux, cited in Note 8); a, "glabelle," surrounded by hair follicles; b, paracoccygeal medullary vestiges; c, caudal ligament; d, coccygeal vertebræ; e, caudal vein (anterior) and artery (posterior); f, mucosa of rectum; g, internal sphincter; h, longitudinal muscular layer of rectum; i, external sphincter; k, levator ani.

masses of small spherical or polyhedral cells having an irregular cavity lined by a layer of prismatic polyhedral or pavement cells. These are attached to the extremity of the coccyx by bundles of laminated fibers, the caudal ligament. From the sixth month of fetal life the *vestiges coccygiens* undergo progressive atrophy. Nevertheless, rests or remnants of them may be found at the time of birth. In the growth of the soft parts which force the cutaneous coverings backward, the skin situated in relation to the "coccygeal vestiges" remains fixed at the point of the coccyx by the caudal ligament. In certain cases this ligament does not yield to the extension of the neighboring parts and the skin invaginates and constitutes an infundibular depression more or less deep (*fossette coccygienne*). The wall of this depression is lined by the cutaneous covering, devoid of hair follicles, but containing sudoriferous glands in abundance. It is thus that cysts of the second type or dermoid cysts (pilonidal cysts) are formed in the sacrococcygeal region.

REPORT OF CASE

The following history I obtained Sept. 17, 1909, at the Central Free Dispensary (case No. 16118) of Rush Medical College in the department of surgery:

Patient.—Baby L. L., aged 7 days. When the child was born a swelling the size of a man's fist was noted in the perineal region. At birth the skin was smooth and white and of quite normal appearance. The swelling enlarged after birth and the skin took on a blue color. The grandmother, who brought the child to the dispensary on account of the swelling, mentioned no other defects or untoward symptoms. Urination and defecation were not interfered with. Father and mother were both living and well. The mother had had no miscarriages. This was the third child; the other two were strong and healthy and were 4 and 2 years old respectively. The birth of this child was normal; head presentation and no instruments used and no difficulty experienced in delivering the buttocks with the attached swelling.

Physical Examination.—The child was well nourished, strong and appeared healthy. The head was of normal size and fontanelles not enlarged. Eyes, nose and mouth were negative, as were also the chest and abdomen. The arm and leg movements were free and there was no sign of paralysis. From the right gluteal region protruded a pedunculated or rather sessile tumor almost as large as the baby's head. This growth extended from the gluteal fold below to the notch between the coccyx and gluteal muscle above, and from the greater trochanter laterally, to the median line of the body, where, extending into the perineum, it encroached on the vulva and the anus (Figs. 4 and 5). The skin covering the tumor was in a normal condition and there were no signs of old scars or inflammatory processes; it was smooth and presented no elevations or depressions. The color was white with faint blue tint where the skin was stretched tightly over the fundus of the tumor. At the apex of the fundus was a reddish discolored area the size of a quarter. Tortuous veins were clearly outlined over the surface of the swelling. A linear elevation of skin showed a white cord-like structure coursing over various parts of the swelling subcutaneously. When held to light the swelling was found to be translucent. The mass fluctuated distinctly. The white linear structure described above could be moved under the skin and felt like a piece of wet hemp string slipping under the palpating fingers. Posteriorly the coccyx was very movable and was pushed to the right side by the tumor mass. Above and to the left of the coccyx was felt a mass of cartilaginous consistency which was very movable. The tension of the swelling was not increased when the child cried. When pressure was made on the tumor, the volume of swelling was not diminished, nor were the fontanelles thereby affected, or any disturbances referable to the cord caused by so doing. (No rectal examination was made.) A puncture of the cyst was made for the purpose of diagnosis; an ounce of light yellow, turbid fluid was obtained which gave reaction for albumin and microscopically showed red cells.

X-Ray Examination.—On September 21, when ten days old, the patient was brought again to dispensary and was referred to the *x*-ray laboratory, where two views of the lower portion of the vertebral column were taken, one lateral, and one antero-posterior. The lateral view (Fig. 6) showed no abnormal condition of the spinal column; the cyst was well outlined and no solid contents seen within. The antero-posterior view (Fig. 7) again outlined the cyst and also showed the coccyx pushed to opposite side. There also appeared in the lumbar and sacrococcygeal region a linear area situated to the left side which was not shaded, while on either side of the same shadows were distinctly visible. This picture at first was thought to be of some value in throwing light on the genesis of the cystic swelling; the possibility of a spina bifida anterior with a meningocele was considered. But Dr. Potter, who took the *x*-ray pictures, interpreted the non-shaded area as the place between the two centers of ossification: T, the smaller shadow, being the ossific point of the transverse process and lamina on

the one hand and B the larger, the ossific point of the body of the vertebræ. The reason a similar picture was not produced in the opposite side of the body was probably that the child was not lying perfectly straight. Another picture of a normal child ten days old was taken as a control to compare with this, and a somewhat similar condition was found.

Operation.—The patient was referred to Dr. Bevan, who operated on the child (September 29) when 19 days old. Under ether anesthesia two half-moon-shaped flaps, one anterior and one posterior to the tumor, were made, thus avoiding injury to the nerve and arterial supply to the perineum; the skin was readily stripped from the tumor mass and

Fig. 4.—Sacrococcygeal cyst, showing extension of the growth downward from coccygeal region.

with slight hemorrhage the growth was followed to its insertion about the coccyx, a part of which had to be removed in taking away the mass. Some difficulty was experienced in separating the growth from the lateral wall of the rectum, which was pushed forward by the tumor, which almost filled the pelvis. The skin flaps with plenty of redundant tissue were brought together with silk and horsehair. Instead of the usual gauze dressing a zinc oxid paste was first applied over the sutured surface to protect the wound from infection from feces and urine. During the operation the surface of the sacrum was freely exposed and no bony defects were found. The child made an uneventful recovery.

PATHOLOGIC REPORT

The gross specimen (Fig. 8) consisted of a mass almost the size of a new-born child's head, one half of which was covered with skin; the other presented an exposed area where skin was removed at operation. The mass on palpation felt like a sac full of fluid. At the center of the exposed area (Fig. 8, A) was a piece of cartilage (tip of coccyx) three-quarters of an

Fig. 5.—Infant lying on its back with legs flexed on its thighs; the tumor mass on the right displacing the anus and vulva.

inch long, one-fourth of an inch wide, and one-eighth of an inch thick, tapering to a point. At the side of the coccyx was an opening to a smaller cyst the size of a hen's egg. The lining of this cyst was smooth, shiny, and white. In the wall of this cyst were four nodules projecting the lining of the cyst forward, also causing an elevation on outer aspect of the cyst. These varied from the size of a BB shot to that of a pea. They were white and of a firm consistency. They cut with slight resistance and on cross-section presented a white homogeneous granular surface. A small cyst the size of a pea, punctured, emitted a clear white fluid. At the base of the attachment of the egg-shaped cyst to the large cyst was an annular thickening of firm consistency which was described in physical examination as a "mass of cartilaginous consistency and very movable." Diameter of base attachment is size of a quarter, the annular thickening itself is about one-fourth of an inch thick.

The main large cyst was punctured (at B, Fig. 8), contents removed and cyst hardened *in toto* in 10 per cent. formalin.

The fluid contents of the cyst amounted to 400 c.c.; were light yellow in color; did not give reaction for the reduction of sugar; 1015 sp. gr.; gave reaction for albumin and showed under microscope red and epithelial cells.

The main cyst cut after hardening is shown in Figs. 9 and 10. Between the main cyst and the coccyx (A) were three smaller cysts (C) varying in diameter from one to three cm., the walls of which were thick (2 to 3 mm.) and of firm consistency, and were lined with a smooth and shiny surface. The wall of the large cyst was thin (1 mm.) over the fundus of the swelling, and a little thicker (2 mm.) nearer the coccyx.

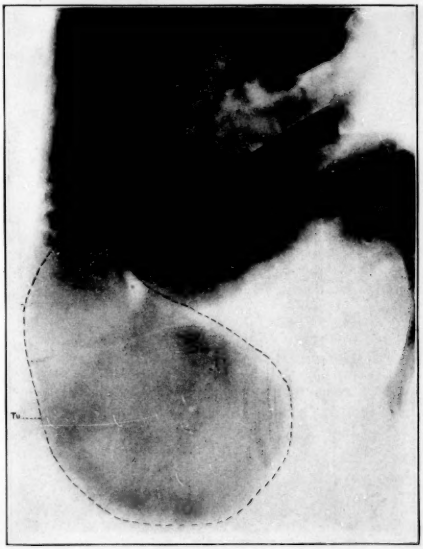

Fig. 6.—Lateral view of tumor (area inclosed by broken line) by *x*-ray.

The skin could easily be separated from the cyst wall. The cavities of the cysts did not communicate with one another. The lining of the cyst was generally smooth and shiny, and presented three points of special interest; first, two nodules, second, three areas of depressed scar-like tissue formation, and, third, several string-like growths of a heavy, white, fibrous-like tissue. The nodules (B, Figs. 9 and 10) were the size of split peas, projected beyond the inner surface of the cyst, and had a darker brown color than the rest of the cyst wall. They were similar to lymphatic glands in appearance. The scar like formations (D, Figs. 9 and 10) referred to had a punched-out border, and the base was composed of lines radiating to the center. The ulcer resembled the scar of a healed ulcer of the stomach. There were three of these scar formations; two about 5 cm. in diameter and one about 10 cm. Distributed irregularly over the cyst wall in varying thickness, from a mere line to several mm. in thickness, were the cord-like, linear elevations referred to in the physical examination (E, Figs. 9 and 10).

Sections for microscopic study were taken from three points of interest (Fig. 9): Section I, to show portion of wall of cyst and skin covering it, white fibrous band, and portion of depressed ulcer-like area; Section II, a section of nodule; Section III, through annular thickening described above several blocks were cut in succession at this point and illustrations here will be referred to as III A, III B, and III C.

Section I (Fig. 11, Hematoxylin-eosin Stain).—There is a line of cleavage separating the skin from the cyst wall proper. The stratum corneum of the epidermis is thin; the stratum germinativum thick; the tela subcutanea is lacking in sudoriferous glands and panniculus adiposus, which are replaced by a fibrous connective tissue containing many young blood-vessels. The cyst wall proper (b) is composed of con-

Fig. 7.—Antero-posterior *x*-ray view of tumor; Tu, tumor, c, coccyx displaced to the right; T, ossific point of transverse process; B, ossific point of body of the vertebræ.

Fig. 9.—Tumor cut open after hardening: A, coccyx; B, nodule; C, cyst; D, scar-like formation; E, white fibrous bands.

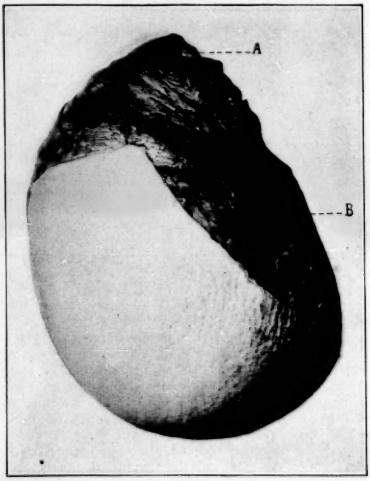

Fig. 8.—View of tumor after removal; A, coccyx; B, site of puncture.

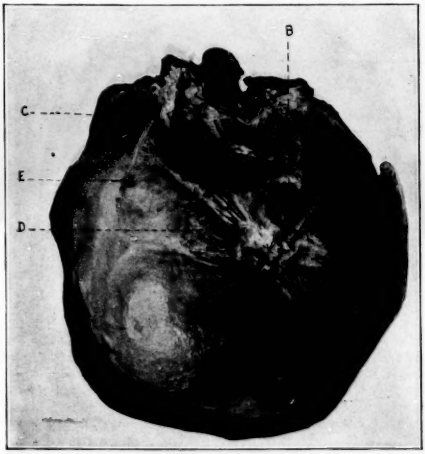

Fig. 10.—Other section of tumor cut open after hardening: B, nodule; C, cyst; D, scar-like formation; E, white fibrous bands.

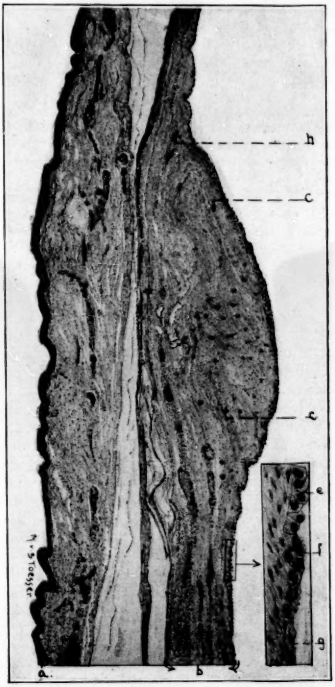

Fig. 11.—Section I (hematoxylin-eosin stain); a, skin; b, cyst wall proper; c, white fibrous band; d, lining of cyst—high-power drawing; e, cells of epithelial type; f, cells of endothelial type; g, cells of connective-tissue type; h, depressed ulcer-like area.

Fig. 13.—Section III B; a, ciliated ependymal cells; b, stratified epithelial cells; b, island of glia cells; c, gland-like or tubular arrangement of glia cells; d, connective tissue; e, fat cells.

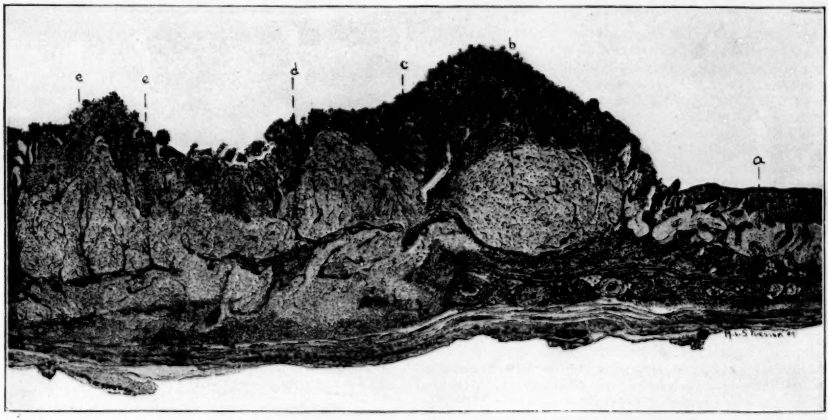

Fig. 12.—Section II (hematoxylin-eosin stain); a, islands of glia cells; b, glia cells in tissue rich in blood-vessels; c, glia cells numerous; few blood-vessels; little intercellular reticulum; d, connective tissue; e, blood-vessels.

nective tissue which is rich in small blood-vessels. The lining of the cyst at places is composed of a layer of large cells arranged side by side which present the characteristics of epithelial cells of columnar type (e) having large nuclei and well-defined protoplasm. These cells are in marked contrast to the elongated spindle cells of the immediately underlying connective tissue of the cyst wall. In other places, however, the epithelial-like layer of cells was wanting and the cells are of an endothelial type (f) and approach the character of the underlying connective tissue cells. In fact, in certain places the

Fig. 14.—Section III B. (Mallory phosphotungstic acid hematin stain); to left, ependymal cells; to right, straight and corkscrew-like neuroglia fibers and two ependymal cells.

spindle cells themselves form the lining and the epithelial and endothelial cells both are wanting. The white fibrous-like band (c) is composed of an increased amount of connective tissue. The depressed area (d) shows the fibrous tissue more compressed and less vascular.

Section II (Fig. 12). Through Nodule as Shown in Fig. 9. (Hematoxylin-eosin Stain).—Other sections are also stained by phosphotungstic acid hematin stain to study the tissue. This section presents glia cells in three different groupings: a, islands of cells which are faintly stained with the hematoxylin-eosin which gives a light area, in contrast to the heavily stained surrounding connective tissue; the cells are few in number and the intercellular reticular substance gives the light appearance: b, glia cells in tissue which is rich in blood-vessels; the cells here are also scarce and the intercellular substance is abundant, predominating over the blood-vessels which are mostly thin-walled and small; c, the cells are numerous and closely set together, there is little intercellular substance, and blood-vessels are comparatively few. The glia cells mentioned have large nuclei which are round or oval and contain no nucleoli but are rich in chromatin granules. The protoplasm is fairly abundant and surrounds the nucleus evenly, or the nucleus may be eccentrically placed. The protoplasm is light and not stained.

The cells are of the ependymal type, similar to those shown in Section III B.

Section III A (Fig. 13, Hematoxylin-eosin Stain).—This presents several points of interest: a cavity lined with epithelial cells which in the upper half have the character of (a) columnar ciliated epithelial cells corresponding to the type of ependymal cells of neural tube: in the lower half the cavity is limited by epithelial cells which take on the type of (a') stratified or pavement epithelial cells. Below, to the left, is an island of cells (lighter stained) the nuclei of which are large and contain four to eight or ten chromatin bodies; the protoplasm is wide and clear. These (b) are glia cells of ependymal-like type. This is also shown in Figure 14, a high-power drawing with Mallory phosphotungstic acid hematin stain. Near by are seen several areas of (e) fat cells in marked contrast to the surrounding (d) connective tissue. Above and to the left are more (c) glia cells of ependymal-like character arranged in glandular or tubular fashion.

Section III B (Fig. 14).—In this are found islands of glia cells similar to those seen in Sections II and III A. With the Mallory phosphotungstic acid hematin stain the following characteristics of the cells were brought out. The cells (upper picture) are of an epithelial type: nuclei are round, or oval, containing chromatin granules but no distinct nucleoli. The protoplasm is generally abundant though in some cells there is little or none. The nucleus at times is surrounded by protoplasm, sometimes, however, located eccentrically. The limits of the protoplasm are well defined. The cells are of the type of ependymal cells, but no characteristic markings of the protoplasm, the *Körnchen* or *Punktierung* of Weigert[46] are found.

Neuroglia fibers (to the right) are numerous, sometimes straight but more often assuming a corkscrew shape. Some are fine and others are coarse; in places they are bunched together containing few cells, but elsewhere they are scanty and the glia cells are plentiful.

Section III C (Hematoxylin-eosin Stain, Fig. 15.)—In the upper left quadrant of the field the cartilage cells (a, coccyx) show the intimate connection of the tumor with the coccyx. The connective tissue is studded with small cysts which are filled by a villous growth which is lined by epithelium of a cuboidal or columnar type.

CONCLUSIONS

From the clinical picture and gross and histologic findings, it may be concluded that this cyst is of neural, or, more definitely speaking, of ependymal origin. Its situation anterior to the sacrum and coccyx and its extension into the pelvis, as well as downward and forward beyond the coccyx, and not at all posterior to or above it, speak for its origin from the neurenteric canal rather than from the vestiges of the medullary canal.

The size of the tumor with no accompanying bony defects speaks against the origin of such a growth from a portion of the medullary canal, such as the filum terminale before it atrophied, and the lack of functional disturbances exclude the remote possibility of its coming from the conus medullaris or higher up.

The most successful treatment of the cysts is early and radical excision, for there is a tendency to progressive

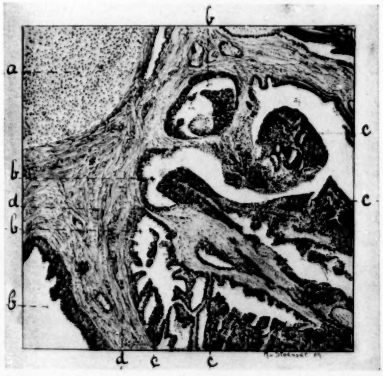

Fig. 15.—Section III C. (hematoxylin-eosin stain); a, cartilage cells—tip of coccyx; b, small cysts; c, villi, with cuboidal epithelium; d, connective tissue.

enlargement and thinning of the wall, and the liability to infection, is increased from day to day. Palliative measures, such as tapping, injections of iodin, etc., have seldom been followed by a cure and have often resulted in pus formation and death of the child.

100 State Street.

46. Weigert: Centralbl. f. allg. Path. und path. Anat., 1890, p. 736.

TRICHINELLA SPIRALIS IN HUMAN BLOOD

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The statement that the *Trichinella spiralis* passes from the intestines to the muscles by way of the chyle and blood-streams has been generally accepted, although until recently no proof has been furnished that this occurs in man. In April, 1909, Drs. Herrick and Janeway[1] of New York first demonstrated the *Trichinella spiralis* in the circulating blood of man. The following report of the finding of an embryo of *Trichinella spiralis* in the human blood may, therefore, be of interest as adding still further proof that the parasite reaches the muscles through the blood-stream.

Clinical History.—The patient, an Italian woman, aged 29, was admitted to St. Luke's Hospital, Jan. 26, 1910, in the service of Dr. S. W. Lambert. She had been suffering for three weeks with headache, pains over the whole body, anorexia, occasional diarrhea, and weakness. She had vomited frequently during her illness, and had also had several attacks of epistaxis.

Course of Disease.—The patient, on admission, was markedly prostrated. The face, especially about the eyes, was puffy. Tenderness was marked over the lower portions of the biceps, over the deltoid insertions, and over the heads of the gastrocnemius muscles. The temperature was 102.8 F. Blood-counts were as follows:

Date.	Leucocytes.	Polynuc.	Lympho.	Eosinoph.	Basoph.
1/27	10,700	72	18	10	..
1/30	15,000	57	28	15	..
2/11	12,400	52	34	13	1
2/15	10,700	52	33	15	..

The patient's course in the hospital was uneventful; the severe symptoms gradually subsided.

Fig. 1.—Trichinella spiralis in blood (× 500).

Blood Examination.—On the day following the patient's admission, twenty-two days after she was first taken ill, her blood was examined for the *Trichinella spiralis*. The method used for laking the blood, namely, by means of a 3 per cent. acetic acid solution, was that employed by Stäubli,[2] who first demonstrated the embryos in the blood of a guinea-pig. About 8 c.c. of blood were drawn from a vein in the forearm, directly into 30 c.c. of the acetic acid solution. A portion was then centrifugalized and the sediment examined under the microscope. As the blood was not sufficiently laked, the sediment was washed and centrifugalized twice with the 3 per cent. acetic acid. A large drop of the sediment was then placed on the slide and examined. After a half hour's search of different slides, the *Trichinella spiralis*, the picture of which is here given (Fig. 1), was found. A few days later a fragment removed from the deltoid muscle showed several larger embryos, not yet encysted (Fig. 2).

Fig. 2.—Trichinella spiralis found in muscle five days after embryo was found in blood (× about 250).

An interesting feature of this case is that the embryo in the blood and the large embryo in the muscle were found at about the same period, showing that the adult parasites in the body must have continued giving off embryos during a considerable period of time.

437 West Fifty-ninth Street.

1. Herrick, W. W., and Janeway, T. C.: Demonstration of the *Trichinella spiralis* in the Circulating Blood of Man, Arch. Int. Med., 1909, iii, 263.
2. Stäubli: Klinische und experimentelle Untersuchungen über Trichinosis, Verhandl. d. Kong. f. klin. Med., Wiesbaden, 1905, p. 354.

SOME ORIGINAL CONTRIBUTIONS TO SURGERY *

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I. TRANSPLANTATION OF THE PROXIMAL END OF THE ULNA TO THE DISTAL END OF THE RADIUS IN AN UNUNITED COLLES' FRACTURE

History.—Figures 1 and 2 show radiographs of the wrists and hands of W. M. Y., who, at the age of 9, suffered a compound right Colles' fracture which, becoming infected, resulted in non-union, destruction of the epiphysis, arrest of growth, and extensive atrophy of the proximal end of the radius.

Examination.—Six years later the boy was brought to me, and the comparative condition of the two extremities is here shown. The right hand was deflected sharply toward the radial side, and having no bony support, hung loose like a flail and was practically useless. The ulna continuing to grow, was slightly curved in the direction of the radius.

Operation.—The end of the posterior surface of the distal fragment of the broken radius was freshened by section with a chisel, and the ulna divided with the Gigli saw on the same

* Read before the Clinical Society of the New York Polyclinic Medical School and Hospital, March 7, 1910.

level. The tissues were separated from the bones anteriorly and posteriorly, and the cut surface of the longer (posterior) section of the ulna was carried over and wired to the anterior fragment of the radius. The anterior extremity of the ulna was then dropped back as shown in the diagram (Fig. 3). The contiguous surfaces of the periosteum were lifted and the bone chipped with the chisel in order to excite osteogenesis, and a silver wire collar was thrown around the opposing sections to hold them firmly in contact. This manipulation carried the hand in a straight position, and at the same time brought the spindle-shaped, atrophied posterior fragment of the radius in contact with the anterior fragment from which it had long been separated.

Subsequent History.—Figure 4 is an *x*-ray taken two years after the operation, and shows perfect fusion between the two fragments of the ulna, and between the ulna and the anterior fragment of the broken radius. It also shows the very remarkably improved condition of the proximal portion of the radius. This is no longer spindle-shaped, but having reunited itself to the anterior fragment proper, it has very appreciably thickened as a result of its increased function.

The result of this operation has been very satisfactory. The hand has been restored to usefulness, and the arm has become strong so that the lad can use it for practically any purpose. While supination and pronation have been lost, rotary movements at the shoulder have been acquired and have greatly lessened the inconvenience of the loss of rotation in the forearm.

In a letter dated Feb. 3, 1910, the father writes: "The developments in the arm have been most remarkable and surprising."

Should it become essential, I may within a year or two divide that prong of the Y-shaped ulna which has attached itself to the distal end of the radius, unite this piece to the shaft of the radius, and thus restore pronation and supination.

Fig. 1.—Normal left hand of W. Y. at 15 years of age.

II. FRACTURE OF THE RADIUS NEAR ITS MIDDLE

Complete Supination of Upper Fragment and Pronation of Lower: Union in This Position Resulting in Complete Loss of Pronation and Supination: Refracture of Bone and Divulsion of Contracted Muscles with Reunion and Restoration of Function

History.—M. C., a Cuban lad, was brought to me in January, 1902. In a fall from a horizontal bar he had injured his forearm. No surgeon was consulted, and there had been no treatment. The pain suffered at the time gradually disappeared, but when after three or four weeks he tried to use the arm, it was discovered that the power of pronation and supination had been lost.

Examination.—An *x*-ray picture (Fig. 5) showed that there had been a fracture just above the middle of the radius. As the two bones of the forearm were not in contact at any point, and as there was no muscular paralysis, interosseous union and injury to the nerves were eliminated.

A careful study of this case convinced me that there had been a green-stick fracture, without displacement of the fragments. The pronator radii teres, no longer opposed by the supinator brevis, had rotated the anterior fragment into complete pronation and fixed it there, while the supinator brevis, acting on the upper end, had rotated that fragment in an opposite direction and held it there until bony union at the point of fracture had taken place.

Operation.—Under ether the bone was divided at the point of fracture, the ends seized with lion-jaw forceps, and by forcible inward rotation for the upper, and outward for the lower end, the contractured muscles were divulsed. The ends were held in this corrected position, splints applied and normal reunion secured with restoration of supination and pronation as complete as before the injury.

Fig. 2.—Right hand of W. Y. six years after a compound ununited Colles' fracture. Lines of section through ulna and distal fragment of radius shown. Note spindle shape of the proximal end of radius.

III. REPRODUCTION OF CARPAL END OF RADIUS

History.—T. A., male, about 21 years of age, in excellent general health, was operated on Nov. 15, 1890. A 38-caliber pistol ball entered through the articular surface, traversed and destroyed three inches of the carpal end of the radius. Some of the fragments were carried away and lost, while others were embedded in the contiguous muscles and under the skin.

Operation.—These were carefully removed, placed in a solution of warm mercuric chlorid, 1 to 3,000, and kept at about 100° F. A hole was drilled through the proximal end of the radius, and the scaphoid, and through each of the dozen fragments of the shattered bone, and these were threaded like beads on a silver wire secured first to the scaphoid, and then to the radius above. All of these fragments survived and fused, and by their presence stimulated osteogenesis, and formed a new and useful radius.

IV. FRACTURE OF THE FEMUR IN THE NEW-BORN

History.—Jan. 26, 1887, I was called to see an infant just born. The accoucheur in making traction by means of the fingers inserted into the flexures at the groin in a case of breech presentation in order to make a rapid delivery, had

caused a fracture of the left femur immediately below the lesser trochanter.

Examination.—The fracture was very evident, for when I made extension on the leg, the upper fragment projected forward, the end being felt just beneath the skin. The position of this fragment was evidently due to the still contracted condition of the psoas and iliacus muscles, since the thigh had as yet not been extended. The only position of the thigh which brought the fragments in line and in apposition, was by flexing it firmly against the abdomen just as it had been in utero.

Operation.—In this position with the leg at an angle of 90 degrees to the thigh, firm rolls of cotton batting were applied along the abdomen on either side of the thigh. While extension was made, the lower portion of the chest, the entire abdomen, and the thigh were included in a plaster-of-Paris cuirass. The bandages did not encircle the thigh but included it in the cast which surrounded the body. Plaster bandages were applied to the leg from the ankle to the knee. To secure complete immobility, these were incorporated into the general cuirass. The right leg was left free, and the plaster cut away so as to permit of the necessary attentions to the infant. Firm extension from the flexed knee in an upward direction was made until the plaster hardened.

Fig. 3.—Showing section of ulna and wiring of proximal end to distal fragment of radius distal fragment of ulna dropped back overlapping shaft to which it is collared by wire.

Result.—At the end of three weeks the dressing was removed, and union without deformity or shortening had resulted. This patient is now a well-developed young woman twenty-three years old, and there is no difference in the length of the extremities.

To the date of this experience I had not heard or read of this complication. Dr. Edgar Wilkinson of Hamilton, Bermuda, writes me that he has met with a similar case and carried out with perfect success the exact treatment as given in my book on surgery.

V. THE TREATMENT OF CARIES OF THE LUMBAR SPINE BY CONTINUOUS EXTENSION[1]

Without suspending, as advised when the Sayre solid plaster-of-Paris jacket is applied, the patient stands erect. Over the tightly fitting knit undershirt, *two* jackets or zones of plaster of Paris are applied, the lower edge of the upper being just above, while the upper edge of the lower is just below the point of disease. The one catches over and rests on the hips, while the other meets the upward expansion of the chest and scapulæ. As the plaster bandages are setting, three zinc plates about 2 by 4 inches (perforated by numerous holes to make them fasten readily) are placed in each section of the jacket. To the center of each plate is securely riveted a flattened staple of iron. One of these is fastened over the spinal column above and below, one under each arm, and one directly underneath these over the hips. These plates are securely held in position by several turns of plaster bandage, passing alternately above and below the staples, which are left exposed. As soon as the jackets are firmly set, extension bars are applied.

Each bar consists of a shoulder at each end, and a solid section cut with cogs and grooves which telescopes into a hollow section, with a key for lengthening or shortening, and a spring-catch to hold it fixed at any point. This is the exact mechanism that is used in Dr. Sayre's knee-joint splint. The shoulders are caught in the staples riveted to the immovable plates, and the requisite extension is secured by means of the key. In

Fig. 4.—The same two years later. Note the solid fusion between the two fragments of the ulna; the ulna with the distal fragment of the radius and (most remarkable) the increased size of the once atrophied radius which is reunited.

this way it can be graduated exactly, the weight of the upper half of the body being transferred from the spinal column to the supporting bars anchored in the upper and lower segments of the jacket. The patient whose case is reported was treated by this method for about one year and a half and was entirely cured.

VI. TREATMENT OF A VASCULAR TUMOR OF THE NECK BY INJECTION WITH WATER AT A HIGH TEMPERATURE

Temporary Occlusion of the Internal Jugular to Prevent Pulmonary Embolism: Temporary Deligation of the Common Carotid with Reversion of the Current in the Internal Carotid of That Side[2]

At the fifty-fourth annual session of the American Medical Association, held in New Orleans in May, 1903, in a paper before the Section on Surgery and Anatomy, I described for the first time the technic of a new method for the cure of certain forms of vascular neoplasms.

1. Read before the New York County Medical Society, Jan. 27, 1879.

2. THE JOURNAL A. M. A., June 27, 1903.

In this paper I reported some typical cases of the two principal forms of angiomata which are, as a rule, inoperable, and, therefore, incurable by the knife. These are the venous angioma (cavernous nevus), the most frequent, and the arterial angioma (cirsoid aneurism), which is less frequently observed.

Since reporting these cases I have had a larger and very satisfactory experience in the management of these lesions, and, in view of the results obtained, must emphasize the importance of the method.

Since the injection of boiling water directly into the substance of a tumor composed largely of dilated and tortuous blood vessels causes immediate coagulation, the first thought of the surgeon is the possibility of embolism and the great dangers which would ensue from this accident. Of course, in dealing with arterial angioma,

Fig. 5.—Case of M. C. Fracture of radius between the insertions of the supinator brevis and pronator radii teres. Rotation of fragments in opposite directions. Union in false position with complete loss of pronation and supination.

no such danger is present, for the reason that the capillaries stand between the coagulating blood and the heart and lungs.

In venous angioma, however, the way is open, and, while I have not yet met with a single case of embolism, every precaution should be taken to prevent this accident.

Most of the neoplasms of this group which I have treated have been located in the neck, generally near the level of the lower jaw, and are in immediate relation to the external and internal jugular veins, as well as the carotid arteries and the large and important nerves of this region.

In the case which I now report, the danger of embolism was so great that I hesitated undertaking the operation, and only did it because the patient's condition was otherwise hopeless.

History.—The patient, F. D., a youth of 19 years, laborer, who, with the exception of the lesion to be described, was in perfect physical condition, came under my observation at the New York Polyclinic Hospital in 1907.

Examination.—Situated on the side of the neck in the line of the internal and external jugular veins, below the angle of the left jaw, was a vascular tumor which measured about three inches in two directions, and projected well beyond the level of the jaw, the tumor having a thickness of between two and three inches. It was of bluish color, and without pulsation. By steady compression, it could be practically emptied of blood and reduced almost to the natural level of the neck. When the pressure was released it filled rapidly and resumed its former size.

On account of the intimate relation of this tumor to the common, *internal* and external carotid arteries, the external and internal jugular veins and the pneumogastric, sympathetic, facial, and spinal accessory nerves, I hesitated to employ the hot water method for fear, first, of causing an embolism in the jugular vein or the internal carotid artery, the first of which would produce death by occlusion of the pulmonary circulation, and second by cerebral embolism and paralysis. A second danger, but one which was less immediate in its effect, was the injury to one or more of the nerves which have been enumerated.

Operation.—Impressed with these dangers, I advised and undertook the removal of this growth by dissection. The hemorrhage, however, was so alarming and seemingly uncontrollable that I was obliged to desist, and had considerable difficulty in arresting it by compression. Three weeks later the following operation was carried out successfully:

To prevent the possibility of pulmonic embolism, the internal jugular was exposed and temporarily occluded by passing around it a large-sized catgut ligature which was twisted and held firmly by an artery clamp. A similar ligature was then thrown around the common carotid artery, and this vessel was in like manner temporarily occluded. The object of this last ligature was to reverse the current of blood in the internal carotid. Blood, like all moving substances, must travel in the direction of least resistance, and in order to prevent the possibility of cerebral embolism, I relied on the force of the unimpeded current to the brain through the internal carotid of the opposite side, and the free anastomosis through the circle of Willis, to carry the blood into the artery of the left side, the stream traveling temporarily downward in its distribution through the branches of the external carotid.

The metal syringe was then filled with boiling water, the piston inserted, and under the barrel of this was held an alcohol lamp in order to keep the water at the boiling temperature. Taking the usual precautions to prevent scalding, by holding a gauze pad in front of the needle as it approached the tumor (for the escape of steam and water from the needle cannot be prevented), the needle was thrust through the gauze as it touched the tumor, and carried well toward the further side of the mass. From ten to fifteen minims were then injected and withdrawing the needle half an inch, this was repeated, until the entire tumor was rapidly subjected to the contact of the hot water.

The result was an immediate coagulation or solidification of the mass. I waited fifteen minutes to satisfy myself of the absence of coagulum in the internal jugular, which could readily have been recognized by the sense of touch. I then removed this ligature. The catgut around the common carotid was then removed.

Result.—There was no suggestion of paralysis and no change in the pupils during or after the operation. The patient made an uninterrupted recovery, has been kept under observation, and now after three years is entirely well. There is no suggestion of a tumor or swelling in the neck, the two sides being symmetrical and normal.

VII. DEMONSTRATION BY EXPERIMENTAL STUDIES ON ANIMALS AND OPERATIONS ON HUMAN BEINGS, OF THE PROCESS OF PERMANENT ARTERIAL OCCLUSION AFTER DELIGATION[3]

April 26, 1882, I presented to the New York Pathological Society a series of specimens which showed the results obtained by the use of broad animal ligatures applied to arteries in continuity. One of these specimens was the carotid artery of a woman which I tied in September, 1881, using the sciatic nerve of a calf which had been made aseptic by treatment in carbolic acid solution. This ligature was not quite one-fourth of an inch in width. The artery was tied just tightly enough to entirely arrest the circulation without doing violence to the inner elastic layer. The patient died seven months after the operation from an intercurrent disease. The artery was completely occluded and its continuity unbroken. There was a slight depression, one-fourth of an inch in width, which marked the exact location of the ligature, every other trace of which had disappeared.

I presented at the same meeting the carotid and subclavian arteries of another patient which I had tied with a broad ligature made of ox aorta after the method of Mr. Richard Barwell of London. This operation had been done for the cure of an aneurism of the ascending segment of the aorta, which operation had proved successful. The patient died one year later from enterocolitis. The occlusion of the arteries was complete, and the condition the same as in the case first reported.

I also presented the carotid artery of a large dog tied experimentally with the nerve ligature. The animal was killed five weeks later, and, as shown, the artery was completely occluded and the continuity of the inner layer seemingly unbroken. In another specimen the carotid artery of a horse was shown. In the application of this ligature, the lumen of the vessel was intentionally not entirely occluded, permitting a portion of the blood current to pass through. Mounted sections of these arteries showed active proliferation in all the normal cells of the arterial wall, most marked in the connective tissue group. They demonstrated that arterial occlusion was the direct result of cell proliferation and the resulting fibrillation and contraction of the new cells of the inflammatory process caused by the traumatism or irritation of the constricting band or ligature.

Scarpa had advanced the idea many years before that it was not necessary to constrict an artery with a ligature forcibly enough to break even the internal elastic layer. Jameson of Baltimore, with this same idea in mind, had later recommended broad animal ligatures made of deer-tendon, but the fact that the clot was an accident of, rather than a factor in, arterial occlusion after the ligature and that closure was due to cell proliferation, *was now for the first time demonstrated.*

When I found in the work of Ballance and Edmunds on "Ligation in Continuity," published in 1891, no mention of these researches, I addressed to them a letter calling their attention to it, and received the following reply:

"LONDON, ENGLAND, Sept. 24, 1894.

Dear Sir:—We are much obliged to you for your kind letter with respect to our book. Its main conclusion is identical with that at which you had arrived long before. We congratulate you on the result of your ligations. Yours very truly,

CHARLES A. BALLANCE,
WALTER EDMUNDS."

3 Published in the Tr. New York Path. Soc., 1882, Med. Rec., July 22, 1882; and in Wyeth: Text-Book on Surgery, 1887, p. 171.

VIII. LIGATION OF THE EXTERNAL CAROTID ARTERY

Ligation of the external carotid artery for any lesion in the distribution of this vessel is comparatively a modern operation. Prior to 1878, when the investigations which were given in my "Essays on the Arteries"[4] were made public, in the entire history of surgery the external carotid artery alone had been tied only sixty-nine times. Practically all of these operations were done in ignorance of, or without regard to, the accepted rules laid down in the text-books, for there was then not a work on surgery in the English or any other language, to my knowledge, which did not advise the ligation of the common carotid, rather than the external branch, for a lesion in the distribution of the external carotid alone.

It was said in justification of this position that the branches of the external carotid artery were so irregular in their origin, and at times so close together, that there was not space enough to permit the application of a ligature to the trunk of this vessel.

It had occurred to me as early as 1874 that, as this was the only artery in the human body which was given as an exception to the general law of development, there might possibly be some error in the deductions given in the text-books on surgery and anatomy.

In my investigations I made 121 dissections of the neck with special regard to the terminal divisions of the common carotid. The origin of each of the six regular branches of the external carotid, the distance from the center of bifurcation of the common trunk, and their relations to each other were carefully measured and noted, with the result that it was demonstrated that the external carotid did not differ from the other arteries in the arrangement and relation of its branches, and that it could be ligated in any part of its course as safely as any other artery in the body.

In these essays I collected the histories of 789 cases in which the common carotid artery had been ligated for all causes, with a death-rate of 41 per cent., while in the 69 cases in which the external carotid alone had been ligated—in disregard to the text-books—the death-rate was only 4.3 per cent., a difference in the mortality ratio as based on the results of surgical methods at that time of 36.7 per cent.

When these essays were made public by the American Medical Association, the conclusions reached were universally accepted,[5] and there is to-day not a work on surgery which does not advise the deligation of the external instead of the common carotid artery in all cases for a lesion within the distribution of the former.

The external carotid artery has now been tied in thousands of instances, and the death-rate under the improved technic is practically *nil*.[6] The following is quoted from the report for 1878 of the Committee on Prize Essays of the American Medical Association:

> One paper, in the judgment of your committee, is fully up to the requirements, and should be considered as *two* rather than *one* essay. The analysis of 789 cases of operation on the (common) carotid artery and the careful and minute measurements of the (external) carotid artery and its branches in 121 subjects, showing the range of variation and the percentage of the same, followed by inferences, bold and original, naturally constitutes a paper complete in itself. Another essay on the same

4. Prizes of the American Medical Association, awarded in 1878; The Surgical Anatomy and Surgery of the Common, External, and Internal Carotid Arteries, and The Surgical Anatomy and Surgery of the Innominate and Subclavian Arteries, William Wood and Co., New York, 1879.

5. For the immediate acceptance and establishment of these conclusions I was greatly indebted to the late Prof. Henry B. Sands, one of the foremost American surgeons.

6. I have tied this vessel in several hundred instances without a death, and in three cases the ligature rested exactly in the crotch of bifurcation of the common trunk.

plan with reference to the innominate and subclavian being an analysis of 300 cases, and the observation of 52 subjects, is presented to us in such a maner that we may consider the whole as one prize, or they may compete for both. Your committee believe that both prizes should be awarded to the two essays by one person.

In the American edition of Bryant's Manual for the Practice of Surgery,[7] from the section devoted to this subject, the following is quoted:

In this connection the views of Dr. John A. Wyeth of New York deserve great attention, for, in his prize essays, presented to the American Medical Association in 1878, he has investigated the subject of ligation of the primitive carotid artery and its branches with such painstaking accuracy that his paper will deservedly become classical. He has collected and analyzed 780 cases of ligation of the common carotid artery, 91 instances of ligation of the external, and 18 of ligation of the internal carotid. In addition, he has given accurate measurements of the arteries in 121 subjects, showing the range of variation and the position of branches. His inferences from this astonishing amount of research are at variance in some respects with the surgical teaching and practice of the day, but it would seem that the profession must be in the wrong, rather than he, who has considered the subject in such a thorough and scientific manner.

IX. BLOODLESS AMPUTATION AT SHOULDER AND HIP

In 1889 I devised the bloodless operation for amputation at the shoulder-joint by elastic constriction over the scapula and pectoral regions, completely controlling the blood supply to the upper extremity. At this operation the applicability of the same idea to hip-joint disarticulation occurred to me, and within a year I did my first bloodless amputation at the hip joint. Both operations were first performed in the surgical amphitheater of the New York Polyclinic Medical School and Hospital.

When the conditions render it permissible, the arm may be emptied of blood by applying Esmarch's elastic bandage. If, on account of the lesion present, this is not advisable, elevation of the member will in large measure allow the blood to gravitate into the body. Two good-sized mattress needles, or preferably the pins specially devised by me, are employed as follows:

The anterior one is inserted through from two to three inches of skin, pectoral muscle and fascia, far enough within the scapulo-humeral articulation to permit free approach to the joint. This pin is anterior to, and does not endanger the vessels. The other is inserted posteriorly over the scapula at the same relative position, and both points are at once shielded with cork. A piece of elastic rubber tubing about half an inch in diameter is wound tightly around the shoulder on the proximal side of the pins. The cumulative pressure of the tourniquet traveling three or four times over the same surface completely closes the blood vessels.

Disarticulation can be accomplished by any of several methods. My own preference, when conditions permit, is a longitudinal incision from the acromion process down to the joint, splitting the deltoid fibers for a sufficient length. From its lower end, a circular or oval incision is carried around the arm, completely dividing the vessels and other soft tissues. The cuff is raised from the bone and the disarticulation effected. The blood vessels are secured, and, as a precautionary measure before closing the wound, the tourniquet may be momentarily relaxed in order to demonstrate any bleeding points which may have been overlooked. This operation has been done in a number of instances, and the hemostasis has been complete in every case.

7. Manual for the Practice of Surgery, by Thomas Bryant, F.R.C.S., Surgeon to and Lecturer at Guy's Hospital; edited by Professor John B. Roberts, Philadelphia, 1881, p. 386.

The bloodless method of disarticulation of the hip-joint was first done by me in February, 1890, and made public before the Nashville meeting of the American Medical Association in that year. The technic is as follows:

The patient is placed with the sacrum resting on the corner of the operating table. The extremity is emptied of blood by elevation of the foot, and, when permissible, by the application of the Esmarch bandage. Two large steel needles about 3/16 of an inch in diameter and ten inches long, are employed. One of these is introduced 1/4 of an inch below the anterior superior spine of the ilium and slightly to the inner side of this prominence, and is made to traverse superficially for about three inches the muscles and fascia on the outer side of the hip. The direction is at right angles to the plane of the body. The point of the second needle is thrust through the skin and tendon of origin of the adductor longus muscle half an inch below the crotch, the point emerging an inch below the tuber ischii. The points should be shielded at once with heavy cork to prevent injury to the hands. No vessels or nerves are endangered by these skewers. A mat or compress of sterile gauze about two inches thick and four inches square is laid over the femoral artery and vein as they cross the brim of the pelvis. Over this a piece of strong rubber tubing 1/2 an inch in diameter when unstretched, and long enough when in position to go five or six times around the hip, is now wound very tightly around and above the fixation needles and secured with a strip of ordinary bandage. If the Esmarch bandage has been employed, it is now removed. The extremity is bloodless, and will remain so.

In the formation of the flaps the surgeon must be guided by the condition of the parts within the field of operation. When permissible, the following method is preferred:

A longitudinal incision commencing at the tourniquet is carried over the trochanter major a sufficient distance down the thigh to form a suitable flap. This is joined at the lower end by a circular incision. A cuff that includes everything down to the muscle is dissected up to the level of the trochanter minor. At about this level the remaining soft parts, together with the vessels, are divided squarely down to the bone by a circular cut. At this stage of the operation, the divided proximal ends of the great femoral vessels are in plain view and should be tied with good-sized catgut. This done, disarticulation is rapidly completed by dividing the muscular insertions from the trochanter and digital fossa, keeping very close to the bone and holding the soft parts away with retractors. The capsular ligament is now exposed and divided, and by forcible elevation, adduction and rotation of the femur, the joint is opened, the ligamentum teres ruptured and the head of the bone dislocated. The remaining vessels, including the saphenous vein, should now be secured—the sciatic artery alongside the nerve, the obturator between the stumps of the adductor brevis and magnus, two or three good-sized branches of the external circumflex beneath the rectus and in the substance of the crureus and vastus externus. The descending branches of the internal circumflex are insignificant, and are usually found on the level of the femoral vessels in the substance of the adductor longus and between it and the adductor brevis and pectineus.

In tying the larger femoral vessels I make it a rule to dissect both the superficial and deep femoral stumps back from one-half to three-fourths of an inch in order to apply the ligature behind any branches which may have been divided close to their points of origin, and I do not hesitate to include the large veins in the same ligature in order to save time. Before closing the stump, it is a wise precaution to loosen the tourniquet in order to see that no bleeding point has been overlooked. The considerable oozing which otherwise would occur from so large a surface may be controlled by introducing a gauze pack into the cotyloid cavity, the end of which is brought out between the flaps for drainage, and then making firm compression with the bandage which holds the dressing on the stump.

The operation has been generally accepted and practiced now in many hundreds of cases. The death-rate from gunshot wounds during the civil war in America

was 93 per cent. and between 40 per cent. and 50 per cent. in civil practice in the years preceding the adoption of the method herewith described. It has now been reduced, under modern conditions of hemostasis and asepsis, to about 8 per cent. in disease and 16 per cent. in traumatic cases.

In the *Annals of Surgery*, September, 1895, Dr. John F. Erdman reports that from January, 1884, to January, 1895 (the aseptic period) there were eighteen hip-joint amputations done in Bellevue, Roosevelt, St. Luke's, Mt. Sinai, Chambers Street, German, and Presbyterian hospitals in New York City, with eight deaths, a mortality of 44.4 per cent. Of the eighteen patients, seven were operated on by the method here described, and all recovered, leaving eight fatal cases in eleven amputations by other methods, a death-rate of 72.7 per cent. I do not claim that such a death-rate as this would follow by any other method of operation, but I do insist that my method of hemostasis is so simple and generally applicable that it removes from the procedure all possible danger of operative hemorrhage.[8]

THE TREATMENT OF SARCOMA BY STREPTOCOCCUS AND PYOGENIC INFECTION

That erysipelas has an inhibitory influence on sarcoma, which is at times curative in its effect, has long been known.

In 1882 there was admitted to Mt. Sinai Hospital, in the service of my colleague, Dr. A. G. Gerster, a young woman, suffering with sarcoma of the leg, for which an amputation was made just above the knee. A recurrence took place, followed by a hip-joint disarticulation. The disease again appeared in the stump, developing rapidly into an extensive cauliflower-like mass which became accidentally infected with erysipelas. This infection ran the usual course of erysipelas, during the progress of which the tumor began to diminish in size and eventually it entirely disappeared. In 1907, more than twenty-five years after this experience when this patient was last heard from, she was entirely well, and still actively engaged in her work as a school teacher.

The experiments of Fehleisen and others by direct infection with the *Streptococcus erysipelatis* have confirmed the result in the case above narrated.

Two years later, in my service at Mt. Sinai Hospital, I had the following experience which has since been repeatedly confirmed, namely, that pyogenic infection was capable of producing the same result.

J. P., aged 28, was admitted May 20, 1884, with the following history: A year previous he had received a blow on the abdomen over the right iliac region, which was followed by induration and the development of a neoplasm. At the time of examination, the tumor was 4 by 6 inches in surface measurement, and about 3½ inches in thickness. On account of the involvement of the abdominal wall, it was found impossible to remove it. A section extending almost entirely through the mass was excised and examined by Dr. William H. Welch and two other competent pathologists. The diagnosis of each was spindle-celled sarcoma. Having noticed in a current medical periodical the report of a case of sarcoma, said to have been cured by the direct injection into the substance of Fowler's solution of arsenic, in view of the hopelessness of the patient's condition, I advised this treatment. I began with injections in two or more portions of the mass of from one to three minims of this solution, gradually increasing the quantity to as much as ten minims. These injections were repeated daily for four or five days, then every other day for about ten days. They became so painful that at the patient's request the treatment was discontinued. The increased pain was occasioned no doubt by a pyogenic infection which had supervened. The tumor became red and swollen, and pitted on pressure. The skin did not have the glazed or "stove-polish" appearance of erysipelas, but rather the look of a severe dermatitis. The infection proved to be pyogenic, and several incisions were necessary to permit the free discharge of pus. The patient suffered very considerably from the high temperatures due to septic absorption, but after a period of about two weeks, the tumor began to diminish in size, and with this there was a general improvement in his condition. Four months later his physician, Dr. A. H. Conson of Gainesville, informed me that the tumor had entirely disappeared. The patient regained his former condition of health and survived, without recurrence, eighteen years, and until a few days before his death from acute pneumonia, was hale and hearty, his weight at that time being 170 pounds.

So far as I am able to learn, this was the first known case of a cure of sarcoma by an infective process other than erysipelas. This experience has since been confirmed in a number of instances, one of the most remarkable and instructive of which is the following:

In 1893, J. P., aged 35, of Augusta, Georgia, consulted me in regard to a large tumor occupying the right hypochondriac region. He was anemic, greatly emaciated, and had the marked cachexia of a malignant growth. On account of ascites, he had been tapped on three occasions, and I removed at one operation five gallons of fluid from the peritoneal cavity. With the collapse of the abdominal wall there was felt a hard, round, slightly movable tumor 4 or 5 inches in diameter. It was exposed by an incision about 6 inches in length. To the touch, the tumor was firm, slightly elastic, and occupied the space between the stomach and liver, having developed from the gastrohepatic omentum. It was of a reddish-brown color, and covered in front with a network of large vessels. On account of its vascularity and the feeble condition of the patient, I did not venture to remove a section for microscopic examination, but from its location and macroscopic appearance I have no doubt that it was a sarcoma. The edges of the abdominal incision were retracted so as to permit about one-third of the anterior surface of the mass to present in the wound, while sterile gauze was inserted to secure adhesions and to prevent any general peritoneal infection. Three days later this packing was removed, and the wound and the exposed surface of the tumor were permitted to become infected. Suppuration was soon established; the dressings were changed daily, and within two weeks' time there was a noticeable diminution in the size of the mass and an improvement in the patient's general condition. This wound was kept open, and allowed to suppurate for about two months, at the end of which time, as well as I could estimate, the neoplasm had diminished about one-half its original size. After the wound healed, the shrinkage continued, and six months after the operation it had disappeared. The patient's general health became better from day to day. Five years later I operated on him for hemorrhoids. A few years after his recovery, he married, and is the father of a number of children, and to-day, after a lapse of seventeen years, is in the enjoyment of excellent health.

244 Lexington Avenue.

8. With the introduction of Esmarch's elastic bandage, it was employed in various ways in the effort to control hemorrhage in hip-joint disarticulation. In the Lancet, 1883, i, 897, Jourdon-Lloyd described a method in which "a strip of black India rubber bandage about two yards long is doubled and passed between the thighs, its center lying between the tuber ischii of the side to be operated on and the anus. The ends are drawn tight, one in front, and one behind, to a point above the center of the iliac crest."

Trendelenburg endeavored to improve on this method by adding transfixion with a single needle which was passed in front of the neck of the femur and beneath the great vessels. A rubber cord in figure-of-eight fashion was carried over the ends in front, compressing the anterior, vascular portion of the flap.

Fourneaux-Jourdon's plan was a figure-of-eight rubber spica, using the Esmarch bandage in practically the same manner as Jourdon-Lloyd.

Richard Volkmann endeavored to control hemorrhage by circular constriction without needles. His three cases were reported in the *Deutsche Klinik* of 1868, but in each case a preliminary ligature of the femoral was done. That this method was not accepted is evident in the fact that neither in Billroth and Luecke's *Deutsche Chirurgie;* in the *Handbuch der Chirurgie* by Von Pitha; the works of Linhart, nor in the *Centralblatt fur Chirurgie* or *Klinische Vorträge*, of which Volkmann himself was an editor, is there any mention or description of this procedure. I never read or heard of Volkmann's discarded operation until several years after my method had been made public and had been generally accepted by the profession. Of the method, Professor W. W. Keen, of Jefferson Medical College, in a report dated January, 1892, says: "It was reserved for an American surgeon to devise what is undoubtedly the best method, and in fact, what I think we can now call the only method of hemostasis in amputation at the hip-joint."

THE TRANSMISSION OF THE TYPHUS FEVER OF MEXICO (TABARDILLO) BY MEANS OF THE LOUSE (PEDICULUS VESTAMENTI)*

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In a previous article[1] we referred to Nicolle's experiment, in which he apparently succeeded in transmitting the typhus fever of Tunis from the chimpanzee to the macacus monkey, through the bite of the louse. Nicolle used twenty-nine lice in his experiment; after feeding on the chimpanzee they were allowed to feed on the monkey for several successive days. Also, Anderson and Goldberger[2] report two attempts to transmit the typhus fever of Mexico City to the macacus by means of the louse. Their first experiment seemed to be without result, and although the second showed a slight rise in temperature, their inability to give an immunity test to the animal makes it imposible to interpret the result. This test is essential, as will be manifest from considerations which follow.

Since January 1 we have performed a series of experiments bearing on the relation of *Pediculus vestamenti* to the typhus of Mexico, some of which may be recorded at this time.

Certain conditions pertaining to the experiments should be detailed before the protocols are given.

The first relates to the susceptibility of the monkey to typhus, and the positiveness with which the disease may be recognized in this animal.

As shown by the experiments of Anderson and Goldberger, and by our own, the injection of virulent blood from man, under suitable conditions, gives rise to a well-marked course of fever, following an incubation period from five to twelve days. A further constant factor is the absence of micro-organisms, which are susceptible to cultivation by ordinary methods, from the blood of the animal during his course of fever. This sequence of events has now resulted a sufficient number of times without any failures, so that it may be expected constantly when the established technic is observed. In the course of our experiments so far six monkeys have received virulent blood from man in doses of from 1 to 7, c.c.; two have received virulent unfiltered serum in doses of 7.5 and 8.5 c.c.; and one received 5 c.c. of defibrinated blood from another monkey as an experiment in passage. All of these animals exhibited an incubation period followed by a distinct course of fever, accompanied by signs of severe illness, and with negative attempts to obtain cultures from the blood. Anderson and Goldberger obtained similar results in the four animals inoculated by them. It would seem, therefore, that even in the absence of an eruption resembling that of typhus (and indeed, no such eruption has appeared), the consistency of the phenomena mentioned is a satisfactory index of the transmissibility of the disease to the monkey. Constantly the temperatures of seven or eight normal monkeys were taken twice daily as a means of detecting possible adventitious infections which might be contagious in character; but none was observed.

A second, and, as it seems, a conclusive method of determining whether a course of fever was really due to an infection with typhus, consists of an immunity test, i. e., a second injection of virulent blood, after the subsidence of the fever. The immunity test must, of course, be accompanied by the injection of a similar quantity of the same blood into a normal monkey, as a control to the virulence of the material. Thus, six monkeys (Nos. 3, 7, 9, 11, 24, and 25) which exhibited a distinct course of fever following their first inoculation, and all of which were seriously ill, showed no febrile response, or other signs of illness, when the second inoculations, or the immunity tests, were given. They received their immunity tests in three groups at different times, and in all five normal controls were used for each group. Five cc. of human virus were injected into each member of one of the groups, and 4 c.c. into each of the other two. The controls in each case developed a course of fever similar to that already described.[1]

The degree of susceptibility of the monkey is another important consideration, and, if it is low, experiments on insect transmission might be rendered difficult or impossible. It will be recalled that Nicolle failed entirely in his attempts to infect the macacus with the Old-World typhus by the direct injection of human blood; he succeeded only by first infecting the chimpanzee and then transferring blood from the latter to the macacus. After the macacus was once infected, he attempted to maintain the disease in this species by passage, but the virus apparently underwent a rapid loss in virulence, and the infection "died out" after two or three passages.

It seems also that Anderson and Goldberger had a similar experience in trying to maintain Mexican typhus in the macacus.

We, also, have made two attempts to keep the disease alive by passage. In one instance, the second monkey (No. 11) became infected, whereas the third (No. 22) showed no fever. In the second instance the second animal (No. 9) exhibited only an indefinite fever, and further passage was not attempted.

There was, therefore, sufficient reason to suspect that the macacus might not be sufficiently susceptible for satisfactory work on insect transmission. Information of at least suggestive value regarding this question might be obtained by determining the minimum infective dose of human blood for the monkey. Although it appeared inadvisable on account of the cost, to investigate this point extensively, one experiment was performed in which one animal (No. 25) received 1 c.c. of virulent human blood, and another 0.2 c.c. of the same material. After the lapse of an incubation period of ten days, the former developed a severe course of fever of ten days' duration, and showed no reaction to a second injection which was given a month later. The animal which received 0.2 c.c. had no fever and showed no signs of illness. Although the immunity test of the latter remains to be given, it is probable that the minimum infected dose in this instance lay between 0.2 c.c. and 1 c.c.

The question arises, however, as to whether the monkey may undergo a mild type of infection, which might be accompanied by little or no fever, and which would be recognizable only from the fact that the mild or "abortive" attack had established immunity to a subsequent injection of virulent blood.

The possibility of such an occurrence is well known. We have observed it a number of times in experiments with spotted fever on the guinea-pig. We have, furthermore, one instance of a very mild and scarcely percep-

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1. THE JOURNAL A. M. A., Feb. 5, 1910, p. 463.
2. Anderson and Goldberger: Pub. Health. Rep., Feb. 18, 1910.

tible infection with typhus in the second attempt at passage referred to above.

Monkey 4, which was infected with virulent human serum, and whose history was given in a previous paper,[1] was bled from heart on its second day of fever and 5 c.c. of the blood were injected intraperitoneally into No. 9, which showed on successive days the temperature given in Table 1:

TABLE 1.—TEMPERATURE OF MONKEY 9 AFTER INTRAPERITONEAL INJECTION OF INFECTED BLOOD

	A. M.		P. M.	
	F.	C.	F.	C.
January 19	103.6	39.8	102.6	39.2
January 20	102.5	39.2	103.4	39.6
January 21	101.8	38.8	103.1	39.5
January 22	103.2	39.5	103.9	39.9
January 23	102.3	39.1	102.8	39.3
January 24	102.0	38.9	102.5	39.2
January 25	101.6	38.6	102.6	39.2
January 26	102.0	38.9	103.6	39.8
January 27	102.0	38.9	103.2	39.5
January 28	101.0	38.3	102.4	39.1
January 29	102.7	39.3	104.3	40.2
January 30	102.9	39.4	102.0	38.9
January 31	101.8	38.8	103.1	39.5
February 1	102.9	39.4	103.4	39.7
February 2	102.7	39.3	103.2	39.5
February 3	*104.9*	*40.6*	*104.8*	*40.4*
February 4	*104.0*	*40.0*	*104.4*	*40.2*
February 5	*103.9*	*39.9*	*103.9*	*39.9*
February 6	*103.1*	*39.5*	*103.6*	*39.8*
February 7	101.8	38.8	103.3	39.6
February 8	.....	.....	103.0	39.4
February 9	101.0	38.3	102.8	39.3

Below 103 for two weeks thereafter.

Not until the sixteenth day after inoculation did the temperature rise above a possible normal (for this individual), remaining somewhat elevated for only three or four days. A positive diagnosis of infection with typhus could not be made under these conditions; yet, when an immunity test was given (February 18) the temperature did not rise higher than 103 during the twenty-six days it was under observation. The control (No. 18) exhibited, on the other hand, a severe course of fever.

Hence, as a consequence of this experiment, and from the experience with spotted fever, it seemed not unreasonable to anticipate that the monkey might suffer from mild infections with typhus, not manifested by marked elevation of the temperature or by distinct signs of illness, but the occurrence of which might be determined later by means of immunity tests. This we believe, is what happened in our attempts to transmit the disease by means of the louse, as will appear below.

The point may also be raised as to whether some of our monkeys may have acquired typhus by contagion, or by means of their own lice from other monkeys which had been infected deliberately, thus vitiating later experiments. Although the evidence is entirely against typhus being contagious, we protected our experiments, (by first killing the lice on the monkeys by means of insect powder, petroleum and scrubbing with green soap; and furthermore, by the practice of keeping a healthy monkey in the same cage with an infected animal in order to test the question of contagiousness. Two monkeys which were thus exposed (Nos. 18 and 20) proved susceptible to later inoculation, the result tending to disprove contagiousness.

Comparatively large numbers of lice were used in each experiment, because of the supposed low susceptibility of the monkey. This condition lays the experiments open to the objection that the transmission might be purely mechanical, and may not, on this account, reproduce the natural conditions. The natural method, however, is still unknown, and may indeed be of a mechanical nature rather than the so-called "biologic." If sixty lice are able to infect a monkey mechanically, a smaller number may infect man, provided the latter is more susceptible. Protocols follow.

TRANSMISSION OF TYPHUS FROM MAN TO THE MONKEY BY MEANS OF PEDICULUS VESTAMENTI

Group 3, *Pediculus vestamenti*, was infected as follows: January 5, they fed for thirty minutes on E. S., on the tenth or eleventh day of his sickness; January 6, on J. V., tenth day of sickness; January 7, on C. A., ninth day of sickness; January 8, on the same patient.

On January 9, 45 lice were alive and 40 fed on Monkey 1 for about on hour; January 10, 334 were alive and 23 fed on the monkey; January 11, they were not fed; January 12, 19 fed; January 13, 13 fed; January 14, 11 fed; January 15, 9 fed. The feedings were not carried further.

The temperature of the monkey on successive days was as shown in Table 2:

TABLE 2.—TEMPERATURE OF MONKEY 1 AFTER BEING BITTEN BY INFECTED LICE

	A. M.		P. M.	
	F.	C.	F.	C.
January 9	100.4	38.0	.....	.....
January 11	102.8	39.3	104.6	40.3
January 12	98.6	37.0	101.2	38.4
January 13	99.2	37.3	102.9	39.4
January 14	99.4	37.4	99.9	37.7
January 15	101.2	38.4	101.7	38.7
January 16	100.8	38.2	100.2	37.9
January 17	99.0	37.2	*103.6*	*39.8*
January 18	*100.6*	*38.1*	*102.9*	*39.4*
January 19	*100.6*	*38.1*	*102.0*	*38.9*
January 20	*99.1*	*37.3*	*103.2*	*39.5*
January 21	*98.9*	*37.2*	*103.2*	*39.5*
January 22	*101.2*	*38.4*	*103.2*	*39.5*
January 23	99.7	37.6	102.6	39.2
January 24	100.9	38.3	102.1	39.0
January 25	99.4	37.4	102.6	39.2
January 26	98.5	37.5	103.3	39.6

Did not rise above 102.4 F. thereafter.

It will be noted that in the afternoons of January 17, 20, 21 and 22, the temperature lay between 103.2 and 103.6, the first rise being eight days after the lice began to feed, or having the 20th in mind, the interval was ten days. Inasmuch as the animal's temperature was constantly below 102.5 for a period of thirty-one days later, it is not improbable that the slight elevation referred to represented a mild infection, although no other signs were apparent.

The belief that the animal had suffered from typhus was corroborated by an immunity test consisting of 7 c.c. of defibrinated blood from Patient 27, given February 8. For nineteen days thereafter, the morning temperature lay between 99.0 and 102.0, and in the afternoon between 101.5 and 102.8. This immunity test was controlled by inoculations of 4 c.c. of the same blood[2] into No. 3, and 1 c.c. into No. 25.

No. 3, after an incubation period of seven days, and No. 25 of nine days, developed fever, which in both animals lasted for ten days, going as high as 106 in the former, and 106.8 in the latter.

The immunity of No. 1 was again tested a month later, March 11, with the same result, whereas Control 20, after an incubation period of five or six days, passed through the usual course of high fever. The first immunity test, however, is the one which indicates, and it would seem conclusively, that No. 1 was infected by the lice.

TRANSMISSION FROM MONKEY TO MONKEY BY MEANS OF THE LOUSE

Monkey 7 was infected by the injection of blood from man, as described in our first paper.[1]

Group 5, *Pediculus vestamenti*, was infected by three feedings on Monkey 7, on the sixth, seventh and eighth days of its fever. Thereafter, the lice were fed for eight successive days on Monkey 12, their number gradually decreasing from eighty-one on the first day to nine on the last day of feeding.

The temperature of No. 12 was irregular and rather high prior to the experiment, although the animal was active and well nourished.

Its temperature continued as in Table 3:

2. No. 3 had been injected previously with filtered serum, without becoming infected; hence this injection constitutes an immunity test for No. 3.

TABLE 3.—TEMPERATURE OF MONKEY 12 AFTER BEING BITTEN BY INFECTED LICE

	A. M.		P. M.	
	F.	C.	F.	C.
January 23	.....	....	102.2	39.5
January 24	.....	....	103.6	39.8
January 25	103.4	39.7	103.4	39.7
January 26	103.6	39.8	103.9	39.9
January 27	102.7	39.3	104.3	40.2
January 28	102.6	39.2	103.2	39.5
January 29	102.9	39.4	101.9	38.8
January 30	104.2	40.1	103.0	39.4
January 31	103.3	39.6	104.2	40.1
February 1	103.0	39.4	104.0	40.0
February 2	102.7	39.3	103.6	39.8
February 3	103.7	39.8	103.4	39.7
February 4	103.7	39.8	103.3	39.6
February 5	103.6	39.8	104.0	40.0
February 6	103.4	39.7	103.5	39.7
February 7	102.1	38.9	103.7	39.8
February 8	.....	....	103.7	39.8

A definite course of fever cannot be made out positively. If present, it would appear to lie between January 30 and February 5 or 6, a period of seven or eight days, and the incubation period would be seven or eight days. On February 2, the animal was manifestly ill, in contrast to its former active condition, and this condition continued for four or five days. On February 9, however, it was again active and appeared well. At this time an immunity test was given; the temperature is given in Table 4:

TABLE 4.—TEMPERATURE OF MONKEY 12 AFTER IMMUNITY TEST

	A. M.		P. M.	
	F.	C.	F.	C.
February 9	103.9	39.9	103.9	39.9
February 10	102.5	39.2	103.9	39.9
February 11	103.3	39.6	103.9	39.9
February 12	103.1	39.5	103.7	39.8
February 13	102.9	39.4	103.4	39.7
February 13	102.9	39.4	103.4	39.7
February 15	102.7	39.3	104.3	40.2
February 16	102.3	39.1	104.4	40.2
February 17	102.9	39.4	103.5	39.7
February 18	103.2	39.5	103.5	39.7
February 19	103.2	39.5	104.1	40.1
February 20	101.9	38.8	103.7	39.7
February 21	102.9	39.4	103.6	39.7
February 22	102.6	39.2	102.8	39.3
February 23	102.4	39.1	102.9	39.4
February 24	101.1	38.3	103.2	39.5
February 25	102.9	39.3	102.4	39.1
February 26	102.4	39.1	103.7	39.7
February 27	102.4	39.1	102.6	39.2

Continued similarly for twelve days more.

The controls were Nos. 3, 24 and 25, already cited. A second immunity test resulted in the same way. No. 20 (see above) being the control. During neither of the immunity tests did the animal show any sign of illness.

No. 25 is a particularly good control for No. 12, since, like the latter, its temperature was naturally high and irregular. The course of fever was as shown in Table 5:

TABLE 5.—TEMPERATURE OF MONKEY 25, CONTROL OF NO. 12

	A. M.		P. M.	
	F.	C.	F.	C.
February 9	103.9	40.	104.4	40.2
February 10	104.0	40.	104.0	40.0
February 11	103.3	39.6	104.1	40.1
February 12	103.9	40.	103.2	39.6
February 13	103.5	39.7	103.6	39.8
February 14	102.5	39.2	103.3	39.6
February 15	100.9	38.3	103.9	40.0
February 16	103.4	39.7	103.9	40.0
February 17	102.3	39.1	103.2	39.6
February 18	102.5	39.2	105.2	40.7
February 19	104.6	40.3	105.7	40.8
February 20	103.7	39.8	104.4	40.2
February 21	104.4	40.2	104.4	40.2
February 22	104.2	40.1	104.7	40.4
February 23	106.3	41.3	106.8	41.5
February 24	106.2	41.2	105.8	41.0
February 25	104.6	40.3	104.5	40.3
February 26	105.8	41.0	104.2	40.1
February 27	103.6	39.8	103.2	39.5
February 28	101.6	38.7	102.9	39.4

Continuing as before the fever appeared.

In our opinion, the result justifies the conclusion that No 12 was infected by the lice of Group 5

INFECTION OF THE MONKEY BY INTRODUCING INTESTINAL CONTENTS OF LICE INTO SCARIFICATIONS

A first experiment, which consisted of the subcutaneous injection of the intestinal contents of infected lice, resulted in death in less than twenty-four hours, from septicemia.

A second experiment was performed as follows: As the lice of Group 5 were feeding on Monkey 12, a small quantity of feces was collected from a number of the lice as it was extruded, and placed in a sterile test-glass. To this material the abdominal contents of three lice were added and the mass was triturated in sterile salt solution. This was done three days after the last feeding of the lice on the infected Monkey 7.

Twelve small incisions, each less than one-eighth inch in length, and extending through the entire depth of the skin, were made in the abdominal skin on Monkey 13. The emulsion of feces and abdominal contents was then instilled into these incisions, which thereafter were massaged by means of a sterile probe. The incisions healed promptly and without suppuration. The temperature of No. 13 was as shown in Table 6:

TABLE 6.—TEMPERATURE OF MONKEY 13 AFTER INFECTION WITH ABDOMINAL CONTENTS OF INFECTED LICE

	A. M.		P. M.	
	F.	C.	F.	C.
January 26	102.7	39.3	103.4	39.6
January 27	102.4	39.1	103.6	39.7
January 28	100.3	38.0	102.1	39.0
January 29	102.2	39.0	101.9	38.8
January 30	102.8	39.3	104.0	40.0
January 31	103.3	39.6	103.9	40.0
February 1	103.0	39.4	103.8	39.8
February 2	102.2	39.0	103.8	39.8
February 3	104.4	40.2	102.4	39.1
February 4	103.7	39.8	103.0	39.4
February 5	102.4	39.1	103.1	39.5
February 6	101.8	38.7	102.1	39.0
February 7	102.0	38.8	103.0	39.4

As appears in the table, the temperature rose on the fifth day after inoculation and remained above the normal for this animal for five or six days. During this period the animal became passive and was not inclined to run about, although it was not seriously ill at any time.

As a consequence of an immunity test given on February 9, the animal showed no febrile reaction whatever and appeared perfectly well, whereas the controls (Nos. 3, 24 and 25) reacted with severe fever, as stated above. A second immunity test, given a month later, gave the same results, the control in this instance being No. 20 (see above).

In our judgment, this experiment proves the existence of the virus of typhus fever in the abdominal contents of the louse for at least three days after feeding on infected blood.

SUMMARY AND CONCLUSIONS

1. It seems that *Macacus rhesus* can be infected with tabardillo invariably by the injection of virulent blood from man taken on the eighth to tenth day of fever. The blood should be diluted with salt solution, as stated previously.

2. Attempts to maintain typhus in the monkey by passage through other monkeys were not successful.

3. The monkey may pass through an attack of typhus so mild that it cannot be recognized clinically. Vaccination results.

4. The immunity test is a reliable proof of the previous occurrence or non-occurrence of typhus at least within a period of one month.

5. Typhus was transmitted to the monkey by the bite of the louse in two experiments, the lice in one instance deriving their infection from man and in another from the monkey.

6. Another monkey was infected by typhus through the introduction of the feces and abdominal contents of infected lice into small incisions.

Other experiments, in which the immunity tests have not yet been given, corroborate the carrying power of the louse.

As to whether these experiments on transmission are to be considered merely as substantiating that of Nicolle, or whether they should be regarded as new observations, will depend on the identity or non-identity of tabardillo with the Old World typhus. If *Macacus rhesus* is susceptible to the direct injection of blood from patients suffering from tabardillo, and not to the injection of the blood of the Old-World typhus, the two diseases in our judgment cannot be regarded as identical, although they may be closely related. As stated in a previous paper, Nicolle was unable to infect the macacus directly with human blood, but succeeded first in infecting the chimpanzee and then the macacus by the injection of blood from the chimpanzee. Nicolle's result, if it is to be regarded as final, when compared with ours and with those of Anderson and Goldberger, seem to indicate non-identity of the disease in the two localities.

It would seem that Nicolle's work, at least in this regard, demands repetition. Possibly, also, the point may be elucidated further by determining whether an attack of Old-World typhus confers immunity to tabardillo.

We are greatly indebted to Director Gaviño of the Bacteriologic Institute, to his assistant, Dr. Girard, to their superiors of the Department of Public Instruction, to the authorities of the General Hospital of the City of Mexico in particular to Dr. Escalona, for their numerous courtesies and cooperation.

A PRELIMINARY REPORT OF THE PEDIATRIC DEPARTMENT OF AN OUTDOOR MATERNITY CLINIC

ALSO A PLAN BY WHICH INFANT MORTALITY MAY BE REDUCED IN LARGE CITIES *

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The outdoor maternity service mentioned in the title of this paper is one conducted by Dr. I. L. Hill in New York City for the past nine years. By means of graduates and undergraduates who desire experience in obstetrics, six to seven hundred women are treated during childbirth in their tenement homes in the course of a year. In November, 1908, I organized a pediatric department to this outdoor maternity service, a novelty in this country.

As soon as the mother applies for aid a social worker calls at her home and obtains on a special card exact data concerning the age, nationalities of parents, previous pregnancies, premature deliveries, miscarriages, causes of death of these children, parents' occupation, total earnings of family, rent paid per month, housing conditions, number of people per room, boarders, cleanliness, amount of food, knowledge of infant hygiene, general intelligence, willingness to cooperate, mother's general condition, etc. Should these notes show that the woman required medical care, this is obtained for her. If other conditions are present, she is referred to the various charities, so as to put her in the best possible condition for the child birth.

* Abstract of an address before the Section on Hygiene and Public Health of the Academy of Medicine, New York City, Dec. 14, 1909.

As soon as the child is born a trained nurse is sent to the house and instructs the mother in the principles of infant hygiene. The child is seen every day until it is taking the breast properly. The nurses are impressed with this, for it is our aim to supply that link in the chain which is missing in other institutions that we know of, namely, to get the care of the child before its birth and from its birth, to be sure that it is nursing well or to find the reason why it is not.

The first day the child is taken into the street it is brought to the clinic, and this clinic visit is repeated once a month until the child is a year old. We realize that this time limit is rather short, but we also know that the first half-year is the most important and needs absolute follow-up work. Every child is seen once a month somewhere, either on the street, in its home, or at the clinic. In order to do this the children are indexed as to names in a book where the months of the year are ruled off in perpendicular parallel columns. Each time a child is seen a mark is made opposite its name. At the end of the month every child must have had its present mark in evidence, or the parents are written to or called on. The only way we lose track of our cases in this great city is by being unable, in spite of all possible detective work, to find out the new address. Thus we have taken care of 784 children; 100 we have lost track of, and 38 have died. The average attendance at the clinic was 14; largest number, 40; attendance during the year, 2,042. During July, August and September, 1,872 house visits were made. The cost of this work, including rent, salaries of three nurses and one social worker, gas, telephone, etc., was $350 per month, or about $4,000 per year. Much interesting data as to infant mortality and sociologic conditions have been gathered during the progress of the work, which will be published elsewhere *in extenso*.

One of the main objects of this work is the propaganda of breast feeding, which, to our minds, is the most important element in the reduction of infant mortality. The changes in the sociologic conditions, which must not be underestimated, are but a means to this end. Statistics of breast feeding, both as to the number of children on the breast and the duration of this manner of feeding, are entirely lacking in America. There are many methods by which this information has been obtained more or less completely—by questioning physicians, midwives, at public vaccinations, in clinics, and in the census taking. The most reliable method is to follow each child individually and, as it becomes a bottle baby, put it in that class. The following is a table which we have been able to compile, showing the number and length of time our babies have been breast babies:

Number of Infants.	Time Observed Months.	Number on the Breast.	Per-centage.
641	1	616	96
532	2	486	91.3
472	3	423	89.6
387	4	331	85.5
309	5	250	80.9
258	6	196	75.9
181	7	123	67.9
138	8	95	68.9
92	9	60	65

From this it will be seen that of our babies observed for five months 80 per cent. were on the breast, which is up to the critical period of their lives. One might here sound a warning to all charitable institutions, hospitals and dispensaries, that have to do with the distribution of

cow's milk, that they must be sure that no more than the 20 per cent. of babies in these five months should get cow's milk, and if they increase that number they are doing more harm than good.

As an immediate remedy for the reduction of infant mortality in large cities, I would suggest the establishment of a number of such maternity clinics with the proper follow-up work so that the children will be under control and kept healthy at the most perilous time of their lives. This in New York City could be done with fifty such clinics at an expense of $150,000. There would be less morbidity, which would be a great economical feature from the standpoint of our dispensaries and hospitals, breast feeding would increase, which is another economical feature for the families concerned, and the infant mortality would undoubtedly be reduced. To my mind, clinics such as I have described should be the first link in the chain, rather than milk depots, babies' dispensaries, and what not. But these various institutions already established in conjunction with a maternity pediatric service would make a combination by which breast and bottle babies would be admirably taken care of among the poor.

50 East Ninety-first street.

HEXAMETHYLENAMIN IN SUPPURATION OF THE MIDDLE EAR AND THE NASAL SINUSES

EDWARD J. BROWN, M.D.
MINNEAPOLIS

A case of acute suppuration of the middle ear treated by three daily doses of 5 grains of hexamethylenamin, with speedy recovery and the detection of the drug in the secretion of the ear, has recently been reported.[1]

A natural inference would be that the drug would be eliminated as well through the mucous membrane of the nasal sinuses, and the rapid improvement of two patients under the treatment suggested leads me to send this communication urging the trial of the remedy in both classes of cases.

CASE 1.—Miss L. B. G., aged 26, school teacher, consulted me March 7 for a stuffiness of the right ear which had lasted three days following a cold of two weeks. I found a subacute otitis media, the watch heard at half an inch and after slight inflation and use of the Siegle pneumatic otoscope, at 16 inches. The floor of the left naris was covered with mucopus flowing from the middle fossa. Transillumination showed both antra light, and ethmoid regions dark. On the 10th, as there had been no material improvement under hot douching the drum membrane was punctured and a small amount of serum evacuated. On the 12th a small adenoid with considerable masses of granular matter in Rosenmüller's fossæ was removed. On the 14th there was some pain and tenderness around the left eye and profuse yellow discharge from the ethmoid region. On the 15th there was buzzing in the ear, which was so deaf that only on pressure could the watch be heard. The drum was opened widely and serum exhausted by the Siegle otoscope. There was no satisfactory determination of bacterial content. On the 18th the head of the left middle turbinal was resected and 5-grain tablets of hexamethylenamin ordered three times daily. On the 21st the ear was healed and hearing improved. The ethmoid suppuration was practically well and the patient left for her Easter vacation.

CASE 2.—My personal case of chronic suppuration of the right antrum, dating back to the New York grippe epidemic of 1889, has been less troublesome since the heads of both middle turbinals were removed four years since by my friend, Dr. W. R. Murray, but has always been renewed with every new cold in the head. When I read Dr. Barton's paper I was slowly recovering from an attack which had lasted all winter, persistent discharge of yellow pus and an unpleasant subjective sense of fetor, when the sinus discharged its contents. Within forty-eight hours after beginning the 5-grain doses of hexamethylenamin, the yellow discharge had practically ceased, the sense of fetor had wholly disappeared, and now after only six days' use of the drug the only discharge noticeable is white and mucoid and very slight at that, and the head feels greatly relieved.

39 Syndicate Block.

1. Barton, Wilfred M.: The Elimination of Hexamethylenamin by the Mucous Membranes of the Middle Ear . . . , THE JOURNAL A. M. A., March 12, 1910, p. 87.

THE EXTRUSION OF INTRASPINAL TUMORS

PRELIMINARY REPORT OF THE APPLICATION OF A NEW PRINCIPLE TO OPERATIONS FOR LOCALIZED EXTRAMEDULLARY AND INTRAMEDULLARY GROWTHS OF THE SPINAL CORD

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A few months ago I operated on a patient who presented the symptoms of an extramedullary tumor of the cervical spinal cord. The operation was done in two stages, the tumor was successfully removed, and the patient is now well on the way to recovery. During the operation several observations were made which may be of value in the surgery of the spinal cord and brain, and which may make the removal of intramedullary tumors of the cord more feasible. The full details of the case will be reported in a later publication by Dr. Fraenkel and myself; for the present purpose the following few facts will suffice:

History.—Dr. L., a private patient of Dr. J. Fraenkel at the New York Neurological Institute, was referred to the surgical department for operation by Dr. Fraenkel with the diagnosis of an extramedullary tumor at the level of the fourth to sixth cervical segments of the cord.

Operation.—At the first operation the spines and laminæ of the fourth, fifth, sixth and seventh cervical and first dorsal vertebræ were removed. When the dura had been incised the much enlarged cervical cord presented, and it was evident that a tumor existed in the cord. A small injury had been made in the pia, and through the opening a small prominence was noted which was clearly tumor tissue. The incision in the pia was enlarged, and through the opening a tumor mass of about the size of an almond was extruded. It was evident that the mass was a part of a tumor which was being gradually extruded through the pia by the intramedullary pressure. At this time the patient's condition became somewhat poorer and it was considered advisable to delay further manipulations to a later time. The muscles and skin were carefully sutured and a firm bandage applied.

Second Operation.—One week later the wound was reopened. The following remarkable condition was found. A tumor which measured 5 cm. in length and 3½ cm. in breadth had been almost entirely extruded from its bed under the pia mater so that it lay outside of the cord substance and could be removed with great ease with few manipulations, and therefore with a minimum of danger of injury to the cord itself. Whether we had to deal with a subpial extramedullary, or with an intramedullary, growth could not be determined with certainty at the time.[1]

1. In the full report of the case the question whether the tumor was an extra or intramedullary one will be considered in detail. Based on our experience in this and in another operation we believe that intramedullary tumors have sometimes been removed by the surgeon in the belief that he had removed an extramedullary one.

CONCLUSIONS

A consideration of the facts of the above case have led to the following conclusions:

Whenever an operation for spinal cord tumor is done in two stages it may be of great advantage to make a small incision in the dura at the first operation. At the second operation the tumor will probably have been extruded from its bed and the intradural structures will have accomodated themselves to their again-changed relations. If the growth be subpial, it will be advisable to make a small incision in the pia at the first sitting, with the expectation that the growth will be found outside of the pia when the second stage of the operation is done, so that the removal of the tumor will be easy and the dangers of injury to the delicate cord structures will be reduced to a minimum.

If the surgeon has to deal with a true localized intramedullary growth, a small incision in the pia in the location where the growth is nearing the surface of the cord may be sufficient to allow of the gradual extrusion of the tumor by the intramedullary pressure, with the same advantages that have been mentioned for extramedullary tumors.

I believe that operations for tumors of the spinal cord in the cervical region should always be done in two stages, and I recommend that the first stage should end, not with the laminectomy, but with the small incision in the dura, and, if the tumor is subpial or intramedullary, with a small incision in the pia mater. If the tumor is subpial or intramedullary, the dura may be closed at the end of the first stage of the operation. The edges of the cut muscles and skin must be carefully approximated by sutures without drainage.

A discussion of the advantages and possible disadvantages of the method here proposed will be considered in detail in a future paper. I believe that in the application of the principle of extrusion of tumors to the surgery of intramedullary growths of the spinal cord the removal of localized growths from the substances of the cord—which has been recommended by some but has been done in but very few instances—will become much more feasible.

Madison Avenue and Sixty-third Street.

IS THE UNCINARIA DUODENALIS SOMETIMES AN ETIOLOGIC FACTOR IN APPENDICITIS AND APPENDICEAL COLIC?

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MONTGOMERY, ALA.

The case reported below raises the somewhat interesting question as to whether or not the hookworm is ever a causative agent in appendicitis and appendiceal colic. That such may be the case seems both reasonable and probable, as there is no reason why the appendix should not be invaded by the parasite, its presence acting as an irritant, producing colic and in favorable conditions as a starting point for a true inflammation. A further investigation by the profession should be of some interest and of practical importance to physicians practicing in infected districts.

History.—Mrs. S., aged 19, was referred to me for operation on February 25 by Dr. W. V. Stough of this city. General history was good; menstruation normal. Some three months previous the patient had suffered an attack of severe pain in right side followed by tenderness, since which time she had suffered three other attacks of a similar nature, the last attack occurring on February 25.

Examination.—The patient was admitted to St. Margaret's Hospital on the afternoon of February 26, at which time her chart showed temperature 99.4, pulse 88, respiration 22. Physical examination showed pain and tenderness in the region of the appendix, uterine appendages normal; diagnosis, appendicitis. Examination of the stools showed presence of hookworm ova.

Operation.—On March 1 the appendix (about three inches long, somewhat thickened and congested, but with no adhesions) was removed.

Examination of Specimen.—The possibility that the hookworm was a causative factor being suspected, the appendix was sent to the state laboratory for examination, which showed the presence of two of the parasites situated within the lumen of the organ, one located at the tip being a female containing a number of eggs. A careful examination of the contents of the lumen failed to demonstrate the presence of free ova, possibly owing to the fact that, if present, they had been forced out by the peristaltic action of the appendix during the recent attack. Pathologic examination by Dr. Mason of the state laboratory showed catarrhal inflammation with a marked infiltration of eosinophiles.

19½ South Perry Street.

A DEVICE FOR THE PREVENTION OF BLEEDING IN BLADDER OPERATIONS

G. KOLISCHER, M.D., AND H. KRAUS, M.D.
CHICAGO

Some time ago A. Bauer made a theoretical suggestion for the prevention of bleeding in operations for tubal pregnancy and of placenta prævia. He proposed to tie off the extremities with rubber bandages, so as to stop the venous reflux, while the arteries would still keep on pumping blood into the limbs. While he did not expect much in the line of depleting the organs of the trunk, he put great hopes in the autotransfusion following the release of the constriction of the limbs. He suggests this "operating by blue extremities" in all cases in which considerable hemorrhage during the operation could be expected.

We put this theoretical suggestion to practical use in bladder operations, and the results were highly satisfactory. Fifteen minutes before the operation the four limbs were tied up with gauze roller-bandages close to the armpits and to the inguinal regions respectively. These bandages were put on very tight. When the skin of the extremities began to turn blue, the operation was started. The condition of the tissues was now simply astonishing. Already the skin incision was practically dry and all the further steps appeared like operating under Esmarch or on a cadaver. Any surgeon with experience along this special line will know to what annoyance the hemorrhage during a bladder operation of any kind puts the operator, while at the same time the loss of blood is no indifferent matter to the patients, especially if they are advanced in age or otherwise weakened.

A prostatectomy or a removal of a bladder tumor is done under this blood-saving device practically dry and without any appreciable loss of blood. After the operation is finished and the wound taken care of, the bandages are released one after another. So far we have not observed any subsequent hemorrhages or other untoward results.

It is apparent what bloodless operating means for a proper technic and for the shortening of the duration of the operation. It furthermore seems that the healing process is enhanced by the elimination of all bruising of the tissues through blood-checking manipulations

and by the prevention of intermediary hemorrhages between the layers of the tissues. That, at least, is the only way by which we could explain the fact that, for instance, suprapubic prostatectomies practically healed up inside of three days in men varying in age from 70 to 83 years. Another advantage of this method is that, in accordance with the experience of Klapp and Hoerman, patients under this reduced circulation require smaller quantities of the anesthetic given and recuperate more quickly from the anesthesia.

The disagreeable sensations produced by rubber constriction are entirely absent in this method, and any appreciable changes in the blood-pressure, as observed in Momburg's compression of the abdominal aorta, are not to be found. We want to recommend emphatically this simple and effective procedure to the attention of the profession. There is no doubt in our mind that this method can be used just as successfully in other surgical operations as in those mentioned above.

92 State Street.

Therapeutics

CREOSOTE IN PULMONARY TUBERCULOSIS

If one were to base an opinion on current medical literature, he must conclude that the use of drugs in the treatment of pulmonary tuberculosis had been practically abandoned, and that nourishing food and fresh air were adequate to cure most cases of the disease. It would be grossly unfair to the physicians of three or four decades ago to assume that the use of these latter remedial agencies was unknown or ignored by them. The value of food and fresh air is no new discovery, but has long been insisted on by sensible and practical physicians, although, of course, the general adoption of the plan of sleeping out-of-doors did not attain great popularity until comparatively recently, and perhaps has already experienced its most extensive practice.

Although the treatment of pulmonary tuberculosis in institutions is now a steadily growing fashion, it does not to-day seem probable that the multiplication of sanatoria will lead, at least in the present generation, to the entire abolition of tuberculosis from civilized communities, nor is it likely that the time will ever come when a very large proportion of tuberculous patients will be treated in sanatoria. On the other hand, it is extremely probable that the majority of these patients will continue to be treated in their own homes.

Consequently it becomes a question of great practical importance to every general practitioner to know whether any drugs can be expected to benefit his patient and assist and increase the improvement derived from food and pure air.

A number of drugs have been highly commended and extensively used with asserted benefit. Perhaps none has been more commended and used than creosote; but, rather curiously, there does not seem to be any general agreement as to its value or uselessness. Many physicians who are looked up to as authorities on the subject, among them heads of sanatoria, teachers and hospital attendants, ignore it entirely, some with a manner as though they had scarcely heard of such use of the drug. Others pass it on with slight mention, or enumerate it in a perfunctory way among the drugs which have been recommended.

On the other hand, not a few men do not hesitate to advise its use, and assert with the assurance of decided conviction that it is exceedingly beneficial in this disease; indeed, more beneficial than any other drug. Among its distinguished advocates is Dr. Beverley Robinson, of New York, who for more than twenty years has been using and praising the drug in tuberculosis of the respiratory organs. He asserts that he practically introduced the treatment in New York and read a paper on the subject before the Association of American Physicians over twenty years ago. Since then he has used the treatment continuously, and recently (*Medical Record*, Nov. 20, 1909) asserts: "I have written and spoken many times on this subject, and tried in every way to convince my colleagues that I was in dead earnest in regard to the doctrine preached. To-day I am thoroughly convinced that we have absolutely no medical treatment of pulmonary tuberculosis at all equal to the creosote treatment properly used and insisted on. In fact, I might say, without much fear of effective contradiction, that no other medical treatment up to date has any great value at all, except so far as temporary relief, perhaps, of symptoms is concerned. . . . By the combined, persistent, intelligent use of beechwood creosote internally and by inhalation, many patients may be saved who otherwise would die. In nearly all cases, no matter what the stage of the disease, much relief to symptoms may be obtained."

Robinson thinks that the best method of administering creosote internally is in the following combination:

℞ Creosoti (beechwood, the best) ..... gtt. vi
Glycerini ..... fl.℥i
Spiritus frumenti ..... fl.℥ii

M. et Sig.: A desertspoonful every two, three or four hours, diluted with a little water.

Or this may be written as follows:

	Gm. or c.c.
℞ Creosoti (beechwood, the best)	50
Glycerini	25
Spiritus frumenti, ad	100

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

The dose of this may be increased to two or three teaspoonfuls, or, if it is desired to increase the creosote, the amount of it may be increased to 1 c.c. or more in the 100 c.c. mixture. If the whiskey is deemed inadvisable, elixir calisaya or the compound tincture of cardamon may be substituted.

For inhalation Robinson (*American Journal of the Medical Sciences*, August, 1908) recommends equal parts of creosote and alcohol, or, when there is much irritative cough, equal parts of beechwood creosote, alcohol and spirit of chloroform. Ten drops should be used on the sponge of a perforated zinc inhaler. The inhaler should be used frequently, at first for a few minutes, later gradually increasing the time until it is used from half an hour to an hour at a time, and finally it may be used almost continuously during the day, and frequently all night. "These inhalations modify sputum favorably, diminish its quantity, lessen cough, thus promoting rest, sleep and nutrition and general improvement physically, and in some instances appear to be the means through which the patient has gotten rid of tubercle bacilli permanently."

Such positive evidence by a man of Dr. Robinson's extensive clinical experience, extending, as regards the use of this particular drug, over twenty years, should carry greater weight than the negative testimony of a writer who has ignored the use of creosote because, perhaps, some favorite teacher has not recommended it.

Somewhat less enthusiastic testimony came to us, not so very long ago, from England. In a public lecture on

"The Evolution of the Treatment of Pulmonary Tuberculosis," delivered in connection with the sixth International Congress on Tuberculosis, at Horticultural Hall, Philadelphia, Sept. 24, 1908, and published in the special volume supplementary to the transactions of the Congress, Dr. C. Theodore Williams, of London, an eminent phthisiographer, says: "Creosote, and its derivative guaiacol, has been largely used in the treatment of consumption, principally by the French and Germans. Their reported successes led me to give both a trial, my chief experience relating to creosote.

"I tried this method largely according to various methods in tuberculous disease of the lungs. First, by inhalation of steam impregnated with creosote vapor. Patients lived and slept in rooms impregnated with this atmosphere.

"Secondly, dry creosote vapor, produced by heating it in an evaporating basin. Patients inhaled this vapor for from one-quarter to half an hour at a time, and this practice was continued for months.

"Thirdly, creosote was administered by the mouth in capsules, in doses of three to ten minims, three times a day, for weeks and months.

"Fourthly, creosote was mixed with olive oil, as recommended by Dr. Gimbert, of Cannes, in the proportion of 20 minims to half an ounce of olive oil, and injected subcutaneously. As much as a tablespoonful was injected at a time, and shortly afterward the patient used to taste the creosote in the mouth.

"The results of these experiments taught me that creosote has a wonderful influence in reducing catarrh and diminishing the amount of expectoration, but that it exercises no control over the evolution or spread of tubercles."

It has seemed worth while to present these remarks in full, not only on account of the position which Dr. Williams occupies as a trustworthy contributor to the literature of the subject of tuberculosis, but also because the entire lecture is printed in a volume of the very voluminous transactions of the congress, where, it is greatly to be feared, it will be overlooked by many who ought to read it.

In the present unsatisfactory and uncertain state of the treatment of pulmonary tuberculosis, the testimony of such distinguished clinicians that creosote affords considerable relief to many patients would seem to indicate, to put the matter most conservatively, that every practitioner who is treating a patient who has pulmonary tuberculosis should at least consider seriously the desirability of giving that patient the opportunity of obtaining any benefit, which in his particular case may be possible, from the use of creosote.

Now, just what is creosote expected to do to these tuberculous patients? The appetite should be increased, digestion stimulated, nutrition improved, weight added, expectoration diminished, the pus in the sputum lessened, the disagreeable odor from the sputum should disappear, and associated non-tuberculous laryngitis, tracheitis and bronchitis of the larger tubes should be cured. It can do all this when associated with fresh, clean air, good food, and rest.

What has driven creosote to the defensive is that so many results are no better than those from fresh, clean air, good food, and rest without creosote, and that so much harm has been done with creosote. The large doses advised and used so long are really inexcusable. Pushing creosote to the point of tolerance and then reducing it and again pushing it to the point of tolerance, until 10, 15, 20, 25, or even 30 drops, three times a day are taken and retained, is unjustifiable. The demand of the body from this nutrition stimulant for the organs to work overtime is bound to result, sooner or later, in a great loss to the body by the overworked organs going on strike. And this is just what occurs after too much creosote has been taken. The appetite is lost, the tongue becomes coated, nausea and vomiting occur, the liver acts sluggishly, there is a yellow tinge to the sclerotics, the pancreatic secretion is lessened, sugar or albumin may appear in the urine, serious kidney irritation and bladder irritation may develop, headaches occur, there is a loss of red corpuscles, there is a loss of weight, and the patient is where he began, as to nutrition, before he took the creosote.

Small doses of creosote may inhibit the growth of or kill the tubercle bacilli that are swallowed into the stomach (so will dilute hydrochloric acid in small doses) and will often increase the appetite and digestion, especially the pancreatic. It acts as a bowel antiseptic, and in small doses will not ordinarily injure the kidneys. Part of the creosote will be excreted by the lungs, and will inhibit the growth of secondary germs of infection (pus germs), and in so much certainty acts for good in pulmonary tuberculosis. The dose, however, that acts for good must be individualized, and is not large. The tongue and digestion should be watched, and the urine frequently examined for albumin during the administration of creosote, and any symptoms of overaction should cause it to be stopped.

Creosote is a phenol poison, and the symptoms of its poisonous action are those of phenol (carbolic acid): gastro-intestinal disturbance, circulatory depression, nervous depression, and kidney inflammation.

It seems probable, from all the testimony presented, that there are patients suffering from pulmonary tuberculosis who will do better on fresh clean air, good food, rest, and creosote than without the creosote. Whether creosote will be of advantage to a given patient must be determined by studying him while he is taking it. It is theoretically indicated if he expectorates a lot of yellow, bad smelling pus; in other words, has a secondary bronchitis or cavities. Albumin in the urine or persistent dyspepsia would contraindicate its use. It should not be forgotten that creosote is more or less absorbed when inhaled, and can thus irritate the kidneys.

Besides the combination for inhalation suggested by Robinson, the following formulas may be used:

℞,	c.c.		
Creosoti (beechwood, best)	1	or	m. xv.
Tincturæ benzoini comp.	100		fl.℥iii

M. et Sig.: To inhale a teaspoonful, from boiling water, three or four times a day.
Shake.

Or:

℞,	c.c.		
Creosoti (beechwood, best)	50		m. vii
Olei pini silvestris	10	or	fl.℥iiss
Tincturæ benzoini comp., ad	100	ad,	fl.℥iii

M. et Sig.: To inhale a teaspoonful, from boiling water, three or four times a day.
Shake.

Or:

℞,	c.c.		
Creosoti (beechwood, best)	50		m. x
Olei pini silvestris	5	or	
Olei terebinthinæ	5	āā,	fl.℥iss
Tincturæ benzoini comp., ad	100	ad,	fl.℥iv

M. et Sig.: To inhale a teaspoonful, from boiling water, three or four times a day.
Shake.

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[*For other information see second page following reading matter*]

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THE INTRAVENOUS INJECTION OF ANTITOXIC SERUM

By serum therapy we aim to introduce into the body, in the most effective manner, specific antibodies and to maintain a high concentration so long as necessary.

The results of investigations as to the influence of the place of introduction on the time when the maximum concentration of antibodies in the blood in passive immunization is reached may be summarized to this effect: On intravenous injection the maximum concentration is reached at once, while on subcutaneous, intramuscular and intraperitoneal injection it is reached only after an interval variously stated at from twenty-four to forty-eight or seventy-two hours. In man, Henderson Smith[1] found absorption of diphtheria antitoxin from the subcutaneous tissue complete only after two or three days. In the case of certain agglutinins and of diphtheria antitoxin, the maximum concentration (according to Levin[2]) in the blood in animals is reached in about three days after subcutaneous and intramuscular injections, but during the first twenty-four hours the absorption is greater from the muscles than from the subcutaneous tissues—at the end of ten hours it is fourteen times greater.

Levin also found that the introduction in animals of immune serum, no matter whether from the same or different species and whether by intravenous, intramuscular or subcutaneous injection, appears to be followed by an immediate and marked loss in antibodies for which he could offer no explanation. That is to say, the demonstrable content of antibody in the serum of the animal in all cases falls far short of the amount calculated on the basis that the antibodies are simply diluted in the blood. This deficit in his experiments was greatest when the antiserum was introduced subcutaneously, less when introduced intramuscularly and least when introduced intravenously, but even here it amounted to from 40 to 60 per cent. and in some cases more.

The fact that intravenous injection immediately gives a far greater concentration of antitoxin and other antibodies in the blood, and hence in the lymph also, thus reaching all parts, than is ever attained by the gradual absorption from the subcutaneous tissue is a strong point in favor of the direct injection into the blood of antidiphtheritic serum in severe and urgent cases. This is urged by Behring, Madsen and others. The principle is, of course, equally applicable to other conditions. According to Berghaus,[3] the curative value of antidiphtheritic serum for guinea-pigs on direct injection into the blood is 500 times greater than on subcutaneous injection and from 60 to 90 times greater than on intraperitoneal injection. Schreiber[4] and Berlin[5] injected antidiphtheritic serum intravenously in a number of cases. They state that general improvement follows sooner than on subcutaneous injection, while the local process in the throat follows about the same course in both cases. And that in very severe cases and in cases coming under treatment late in the disease the intravenous injection of large doses may offer the only chance. In their series no dangerous symptoms developed. Fette[6] injected 145 patients intravenously and believes that the lives of several desperately ill patients were saved by so doing. According to Park,[7] large doses of antitetanic serum injected intravenously within a few hours of the onset of the symptoms of tetanus have given good results.

In case of difficulty in entering the vein in suitable cases, it is advised that the injections be made into the muscle of the buttock which, so far as concerns the rapidity and degree of absorption of antoxin into the blood, is a more favorable place for injection than the subcutaneous tissue.

The one objection of any consequence against the intravenous method is the increased danger of anaphylactic shock in susceptible persons. But in order still further to reduce the mortality from diphtheria this risk may well be taken in desperate cases. Says Ker:[8] "Occasionally I have seen an intravenous injection act almost like magic in an entirely hopeless case."

1. Jour. Hyg., 1907, vii, 205.
2. Ztschr. f. Immunitätsf. u. exp. Therapie, 1909, i, 3.
3. Centralbl. f. Bakt., I, 1909, l, 87; Also experiments of F. Meyer, Berl. klin. Wchnschr., 1909, xlvi, 1202.
4. München. med. Wchnschr., 1909, xxxv, 1597.
5. Deutsch. med. Wchnschr., 1910, xxxvi, 210.
6. Med. Klin., 1909, v, 1891.
7. THE JOURNAL, Jan. 22, 1910, p. 254.
8. Infectious Diseases, 1909.

THE REVISION OF THE NATIONAL FORMULARY

The national Food and Drugs Act raised the National Formulary to the position of an official standard and gave it a significance and an importance which previously it could not claim. In order to meet the requirements of the new function of this book, the American Pharmaceutical Association, at its last meeting, invited the Section on Pharmacology and Therapeutics of the American Medical Association to cooperate in the revision and a committee of five members was appointed.

This idea of having the cooperation of physicians is a good one, for the National Formulary is a book in which physicians are becoming more and more interested since the propaganda against nostrums was initiated. A thorough study of the book is now necessary in order to adapt it more closely to our present knowledge and to

eliminate certain features that are not a credit to it. When some of the formulas were selected there was not sufficient investigation made to show whether or not they were of therapeutic value; and in others there was evident disregard of chemical and other incompatibility. Thus, in liquor antisepticus alkalinus, small amounts of reputed antiseptic drugs satisfied the implied demand for an antiseptic solution, and no investigation was made to determine whether or not the strength was sufficient for antiseptic or germicidal results. In a similar manner, because acids were found to be necessary to the digestive action of pepsin, a little acid (not sufficient for any therapeutic purpose) was added to a popular digestive powder. The same thing was done with the compound elixirs; and thus was perpetrated the absurdity of combining pepsin and pancreatin in an acid solution, an incompatibility that we fully demonstrated three years ago.[1] But it is asserted that the use of elixir digestivum compositum (N. F.) and proprietary elixirs of similar composition as a vehicle in the administration of salicylates, bismuth salts, bromids, etc., is actually on the increase. It hardly seems possible that this can be true, that a physician should continue to use something supposed to be a digestive when all he needs is a suitable elixir. But there is no doubt that the demand for these elixirs and for the proprietaries of which the elixir digestivum compositum is an imitation is to a great extent a demand for a vehicle. The Pharmacopeia already contains two highly alcoholic elixirs which serve as vehicles, elixir adjuvans and elixir aromaticum, so that it would seem unnecessary to add still another more or less similar preparation. If, however, it is deemed desirable to have a colored vehicle, one could be made by omitting the digestives from the elixir digestivum compositum and giving it a name to signify its use as a vehicle.

The medical men who have been selected to advise the committee on revision on the question of the character of the formulas to be included in the book are supposed to be chosen for their knowledge, not of pharmacy, but of therapeutic possibilities. It is evident, therefore, that therapeutics is to be guarded as well as pharmacy in this revision.

It has been suggested that all complex formulas and mixtures should be left out of the Pharmacopeia. The suggestion may be a good one. All such formulas found pharmaceutically correct and therapeutically efficient might then be included in the National Formulary. There should be added also the formula of a simple vehicle as suggested above; and there might be included formulas for mouth-washes or throat-washes, external applications such as liniments, pastes, ointments and counter-irritants, and perhaps injections of various sorts. These could be given by way of suggestion as to strengths that might be employed and as to pharmaceutical elegance and suitability rather than as set formulas to be used for all patients without variation. The book, however, should not mislead any physician by containing preparations that are worthless therapeutically or chemically impossible. It should be kept in mind that the use of set formulas in prescribing is not scientific, and the aim should always be to prescribe single drugs or simple combinations directly adapted to the case in hand. Until that method is followed by physicians universally, however, some of the present formulas now included in the Formulary will perhaps have to be retained.

1. Liquid Combinations Containing Pepsin and Pancreatin, THE JOURNAL A. M. A., Feb. 2, 1907, xlviii, 434

CARCINOMA OF THE TONGUE

Much of the recent discussion concerning the increase of cancer is confined to statistics relative to cancer of the uterus, breast and stomach. It is pertinent, therefore, to call attention to a form of carcinoma of the epithelioid type (epithelioma) which is quite as fatal as any other.

Of the epithelioid type, carcinoma of the tongue is much more frequent than is commonly supposed. Andrew of Glasgow presents some very surprising statistics relative to epithelioma of the tongue. Of 118 cases comprising various diseases of this organ, such as abscess, hematoma, glossitis, leucoplakia, papilloma, and tuberculous ulcer, 98 were cancer of the epithelioid variety. Of the 98 patients, 88 were males and 10 were females. These figures are similar to those obtained for cancer of the lip. Andrew found that in 469 cases of epithelioma the order of frequency was: tongue, lower lip, esophagus, penis, cheek, larynx and tonsil. In other words, epithelioma of the tongue comprised 20.8 per cent. of all cases of epithelioma seen during a period of ten years. Of the 118 cases there was only one case of tongue syphilis, or 0.8 per cent. The tongue and floor of the mouth are very rich in blood vessels and this, combined with the constant muscular movements of the tongue, produces a quick extension of the cancerous process into the lymphatic and submental and submaxillary glands.

The entire statistics cited by Andrew cover the histories of over forty thousand cases of general diseases, and bear out the opinions of the rhinologists and stomatologists who naturally see cases of tongue disease more frequently than the average general practitioner.

It needs to be emphasized that tertiary syphilis is rare in the tongue—a fact which is by no means well known. Recently three cases were reported in which several physicians diagnosed gumma of the tongue, and the patients were given iodids in large doses. Each of these cases, when a section of the tongue was taken, proved to be epithelioma, and all were practically inoperable at the time the true diagnosis was made.

However, if the patient has had an initial syphilitic lesion it is necessary to be on guard, for Brandt of Berlin says that it is not uncommon to find carcinoma arising from the base of a syphilitic ulcer and Koerner of London has seen at least twelve undoubted cases in the tongue. These observations are somewhat discounted

by the statement previously made relative to the infrequency of syphilitic tongue conditions, but the possibility should be kept in mind.

A leukoplakia, a fissure or an ulcer of the tongue should not be temporized with, but a portion of the growth should be submitted early to microscopic examination. It need scarcely be stated that the cure of cancer anywhere in the body depends on early diagnosis and complete eradication. Anything short of this means that the patient is deprived of the only opportunity he has of preventing a speedy and fatal termination of his malady. It is well, therefore, to be constantly on guard as to all suspicious lesions of the tongue.

RECENT ACTIVITY FOR A SAFE CELEBRATION OF THE FOURTH OF JULY

Never before has there been so much fruitful effort toward the securing of a safe celebration of the Fourth of July as during the past few months. Action thus early in the year is well advised for two chief reasons: First, before dealers in fireworks have laid in their supplies, valid objections cannot be raised to prohibitive or restrictive ordinances, and such ordinances are more easily secured; second, ample time is needed to plan other forms of celebration. Hundreds of cities and towns throughout the country have passed or are being strongly urged to adopt restrictive or prohibitory ordinances against the use of fireworks. Various organizations are taking an active part in the work. One city council, that of Hamilton, Ohio, recently passed an ordinance prohibiting the sale of fireworks, which was objected to by dealers on the ground that having already laid in their stocks of fireworks the enforcement of the ordinance would result in serious financial loss to them; whereupon the people raised a fund, bought up all the fireworks and will hold an exhibition in the public park on July Fourth. Meanwhile the ordinance will be made effective. Equally interesting is the movement to substitute other forms of celebration, and many cities report plans for pageants, military parades, flag-drills, picnics, etc. One city has raised a fund of $60,000 for this year's celebration. That the larger cities are undertaking these safer and more sensible methods of celebration is especially encouraging, since it will be a stimulus to smaller cities to do likewise.

ANOTHER FRAUDULENT PRACTITIONER ELIMINATED

According to the *Texas State Journal of Medicine* "the greatest charlatan and quack that ever imposed on the credulity and gullibility of the Texas public" was put out of business in Judge Camp's court at San Antonio, March 4, when a jury brought in a verdict revoking the license of "Doctor" Lafayette Berry, the self-styled "Phenomenal." He had worked in many cities in Texas and had relieved many people of money by flagrant and fraudulent methods. He made a practice of touring the state with a company of performers and a brass band doing what he styled "bloodless surgery" on opera house stages and in public halls. Having been exonerated of fraudulent practices by minor courts several times, he became arrogant and bold in his denunciation of the medical profession. One of his strongholds was his apparent success with gall-stones. It is said that he used olive oil, followed by an alkali, and the resulting concretions of soap passed by the patient were claimed by him to be gall-stones. Our Texas exchange states that he secured $25 from Captain Moore, of the Beaumont fire department, by this plan. The matter was taken up by the profession of the city, the fraud exposed, the "Phenomenal" was brought into court and his license revoked as stated. On examination in court the "doctor" admitted that he had never graduated in medicine, but had secured a diploma from an Eclectic school in Philadelphia after two months' attendance and had obtained another from a school in San Francisco without any attendance. The profession of Texas and the *Texas State Journal of Medicine* deserve credit for their persistent and successful efforts to rid the state of this notorious quack.

Medical News

ARIZONA

Hospital Burned.—St. Mary's Hospital, Douglas, was burned February 10, with a loss of about $5,000. The patients were removed without casualty.

Society Meeting.—At the annual meeting of the Pima County Medical Society, held in Tucson, Dr. Ira E. Huffman was elected president; Dr. Abram Morrison, vice-president, and Dr. A. Garfield Schnabel, secretary-treasurer, all of Tucson.

Convicted of Violating Health Law.—A jury in Phoenix is said to have found Dr. Benjamin B. Moeur, Tempe, guilty of a misdemeanor in failing to report to the Maricopa county board of health, a case of smallpox in that city, and a fine of $20 was imposed. Dr. Henry A. Hughes, superintendent of the count yboard of health, was the complaining witness in the case. The defendant's attorney gave notice of his intention to appeal to the district court.

ARKANSAS

Fortune for Sanitarium.—By the will of A. W. Shirey, Mintern, who was assassinated March 8, $200,000 is left to the Grand Lodge of Odd Fellows to establish a sanitarium at Hot Springs.

District Society Meeting.—The semi-annual meeting of the Tenth Councilor District Medical Society was held in Fort Smith, March 15. Dr. Thomas Douglas, Ozark, was elected president; Dr. James J. Smith, Paris, vice-president; Dr. Othello M. Bourland, Van Buren, treasurer, and Dr. Dred R. Dorente, Fort Smith, secretary (reelected).

Medical Society Organized.—Montgomery County Medical Society was organized at Womble, March 22, with the following officers: President and delegate to the state society, Dr. Leroy S. Kennedy, Mount Ida; vice-president, Dr. John E. Alford, Womble; secretary, Dr. John H. McLean, Caddogan; corresponding secretary, Dr. John B. Stewart, Black Springs; and treasurer, Dr. Isaac N. Freeman, Washita.

CALIFORNIA

State Society Annual Meeting Planned.—The Medical Society of California will hold its annual meeting at Sacramento, April 19-21.

Decides Against Appellant.—The court of appeals, on March 16, is said to have affirmed the sentence of five years in the state prison imposed on Dr. Benjamin B. Lee, San Francisco, for manslaughter.

Plead for Benefactor.—Eight lepers of the colony at the San Francisco Isolation Hospital have joined in a petition to the San Francisco Board of Supervisors, asking that the board of

health rescind its action in removing Dr. John Atcherly from attendance on them.

Antituberculosis Society Meeting.—At the first annual meeting of Alameda County Society for the Study and Prevention of Tuberculosis, March 25, Kenneth A. Millican was reelected president; Dr. Edward von Adelung, Oakland, first vice-president; Dr. Charles A. Dukes, Oakland, a member of the executive committee, and Drs. Nelson H. Chamberlain, Oakland, Edward N. Ewer, Oakland, Alexander S. Kelly, Oakland, Florence M. Sylvester, Oakland, F. M. Simpson, and Samuel J. Wells, Pleasanton, members of the board of directors; Dr. Ergo J. Majors, Oakland, chairman of the hospital committee; Dr. A. A. Alexander, Oakland, chairman of committee on public education and hygiene; Dr. Florence M. Sylvester, Oakland, chairman of the open air school committee; Dr. Walter S. Rutherford, Oakland, chairman of the membership committee; Dr. Edward N. Ewer, Oakland, chairman of public service committee, and Dr. Edward von Adelung, Oakland, chairman of clinic committee.

COLORADO

Site for Tuberculosis Sanatorium Bought.—By the purchase of fifteen acres near the southeastern limits of Denver, the Sisters of St. Francis have inaugurated a movement for the erection of a tuberculosis sanatorium to be known as St. Leo's Memorial Hospital, to cost $250,000.

Personal.—Dr. William S. Osborn, assistant superintendent of the Colorado State Insane Hospital, Pueblo, has been appointed chief of the Wisconsin State Receiving Hospital for the Insane, Mendota.——Dr. Jesse U. Sickenberger, Ouray, has been appointed surgeon of the Bureau of Pensions for the district of Ouray.

Faith Healers Convicted of Neglect.—In the Otero County Court, March 21, Judge E. W. McDaniel rendered his decision in the case of Mr. and Mrs. D. B. Messenger, La Junta, eddyists, charged with neglect in failing to call in a physician to attend three children after three other children had died. The decision holds the parents guilty of neglect.

Society Meetings.—The annual meeting of the Colorado Alumni Association of the Northwestern Medical School was held in Denver March 26. Dr. Alexander T. King, Pueblo, was elected president; Dr. Holmes, Pueblo, vice-president, and Dr. Karl F. Roehrig, Denver, secretary-treasurer. It was decided to hold the next annual meeting in Pueblo.——At the annual meeting of the Teller County Medical Society, held in Victor, March 29, the following officers were elected: Dr. John B. Polly, Victor, president; Drs. Albert C. McClanahan, Victor, and John A. Dunwody, Cripple Creek, vice-presidents; Dr. Thomas A. McIntyre, Cripple Creek, secretary-treasurer, and Dr. Albert C. McClanahan, delegate to the state medical society.

CONNECTICUT

Mental Hygienists Meet.—The board of directors of the Connecticut Society for Mental Hygiene, at its annual meeting in New Haven, elected the following physicians as officers: President, Dr. George Blumer, New Haven, and executive committee, Drs. Henry S. Noble, Middletown, Henry M. Pollock, Norwich, Whitefield N. Thompson, Hartford, and George H. Knight, Lakeville.

Malpractitioner Convicted.—Charles E. Harvey, Hartford, charged in the criminal superior court with performing a criminal operation, is said to have been found guilty and sentenced to imprisonment for not less than two nor more than three years in the state penitentiary, Wethersfield. It is stated that in 1905, on being found guilty of a similar offense, he was sentenced to one year in jail, expelled from the medical societies and his license to practice revoked.

GEORGIA

Personal.—Dr. William C. Lyle, Augusta, was recently elected secretary-treasurer of the Georgia Medical Association, and not Jarrett W. Palmer, Ailey, as was erroneously stated in THE JOURNAL of April 2.——Dr. Jesse G. McAfee has been appointed surgeon of the Southern Railway at Dalton, vice Dr. Charles P. Gordon, deceased.

District Society Meeting.—The Medical Society of the Ninth Congressional District held its annual meeting in Commerce, March 16. The plans of the Georgia State Tuberculosis Sanatorium, now being constructed at Alto, were presented by Dr. Jeff Davis, Toccoa, and a resolution was unanimously adopted that the state use its influence to have the general assembly apply the license tax on physicians of $10 per annum for the support of this institution. This will bring in about $25,000. The economic problem of tuberculosis and the fly as a carrier of infection were considered in papers presented by Dr. Lamartine G. Hardman, Commerce, who also gave a report of the Pellagra Conference. Dr. Jeff Davis, Toccoa, was elected president; Dr. Laetus Sanders, Commerce, vice-president, and Dr. A. D. White, Gainesville, secretary-treasurer.——The fifth semi-annual meeting of the Seventh District Medical Society of Georgia was held in Dalton, March 9, and the following officers were elected: Dr. Josephus J. P. Bowdoin, Adairsville, president; Dr. T. S. McLain, Calhouun, vice-president, and Dr. Harlan L. Erwin, secretary-treasurer (reelected), Dalton.

ILLINOIS

Sanatorium for Rock Island.—At the recent local election the municipal tuberculosis sanatorium tax levy was carried in Rock Island. This is the first city outside of Chicago to take advantage of the Glackin Sanatorium Tuberculosis Law.

Fire at Insane Hospital.—Fire caused by lightning partially destroyed the store building of the Bartonville State Hospital early in the morning of April 4. The 150 patients who were asleep on the third floor of the building were removed without casualty by the attendants.

Found Guilty of Murder.—After thirty-six hours' deliberation, the jury in the Sayler murder case at Watseka, on April 12, returned a verdict of guilty, sentencing Dr. W. H. Miller, Crescent City, to imprisonment for twelve years in the state penitentiary. Notice of appeal was filed.

Found Guilty.—Dr. Benjamin A. Arnold, Freeport, charged with committing a criminal assault while attending a young girl under 16 years of age, is said to have been found guilty, March 26, and sentenced to imprisonment for four years in the state penitentiary. A motion for a new trial was made.

New Interns for County Hospital.—As the results of the annual competitive examination, forty interns were selected for Cook County Hospital, each to serve for eighteen months. Of the successful candidates, 24 are graduates of Rush Medical College, and 8 each of Northwestern University Medical School and the College of Physicians and Surgeons.

Personal.—Dr. James A. Clyne, Joliet, who recently underwent an operation for appendicitis at St. Joseph's Hospital, is reported to be convalescent.——Dr. George P. Powell, Dixon, has been appointed a member of the local board of pension examining surgeons, vice Dr. David H. Law, deceased.——Dr. Harry M. Hayes, Peoria, has returned from Europe.

Free Bed for Nurses.—A free bed for nurses afflicted with tuberculosis has recently been established at the Edward Sanatorium, Naperville, a department of the Chicago Tuberculosis Institute, in recognition of the valuable services of the nurses of Chicago, who as members of the Nurses' Auxiliary Committee of the Institute, took a leading part in the sale of Red-Cross Christmas stamps. From the proceeds of this sale, the money to support the bed has been appropriated.

Chicago

For a Contagious Hospital.—The Chicago Hospital Day Association has decided to set aside one-third of the money collected on Hospital Day, May 16, to a fund for the establishment of a contagious disease hospital, the need for which is urgent.

Personal.—Dr. Isadore S. Trostler was operated on in St. Joseph's Hospital, April 2, for a fracture of the right patella.——Health Commissioner William A. Evans, Dr. William K. Murray and Dr. Egil T. Olsen have been appointed a board to pass on the medical and physical defects of 370 members of the police department who have attained the age of fifty years, and have been twenty years in the police service.

To and From Europe.—Dr. Julius H. Hess, accompanied by his family, sailed for Europe April 12. He will be abroad about four months and will inspect children's hospitals in Germany, Austria, France and England.——Dr. Charles Adams sailed for Europe April 9.——Dr. and Mrs. Franklin H. Martin have returned from Egypt and the Orient.——Dr. Frank W. Lynch has returned after a four months' trip abroad.——Dr. and Mrs. Jacob Frank have returned after a trip to Egypt, Palestine, Syria and Turkey.

KENTUCKY

Hospital Dedicated.—The new building of the Children's Free Hospital, Louisville, a model in every respect, was formally dedicated, April 2.

Appropriation Passed.—The governor has allowed the $30,000 annual appropriation for the State Board of Health to become a law without his signature, and he has signed the bill giving the King's Daughters Home for Incurables an appropriation of $10,000.

Hospital Commission Appointments.—The mayor of Louisville has appointed the following members of the Hospital Commission: Sam A. Culbertson, capitalist; Hon. Arthur Peter, former county judge; John H. Leathers, banker, and John Hubbuck, Sr., merchant. The recommendation of the Jefferson County Medical Society that a physician be appointed a member of the commission was not heeded.

Sanatorium to Open.—The Waverly Hills Sanatorium of the Louisville Board of Tuberculosis Hospital is almost completed and will be opened the latter part of this month. Two houses have been erected and the institution will accommodate at first from forty to fifty patients. Later it is hoped to double the capacity of the institution. Drs. George S. Coon, Sidney J. Meyers, and Eugene Y. Johnson are members of the board, and Dr. A. M. Forster will be in charge of the sanatorium.

MARYLAND

Merritt Guilty.—In the case of Dr. James B. Merritt, Easton, indicted in Caroline County Court for malpractice, the defendant is said to have pleaded guilty April 6, and to have been fined $1,000 and costs.

Legislative Action.—In spite of the efforts of Dr. Thomas A. Ashby the optometry bill was passed by the legislature; 13 counties and the city of Baltimore, however, are exempted from its provision. Other bills which received the governor's signature were the following: The bill regulating the practice of midwives; the bill regarding health and sanitation in Baltimore county; the pure food and drug law; and the lunacy bill for state care of the insane, which appropriated $600,000 for buildings and for the care of the colored insane, and for the supervision of asylums by the lunacy commission. The bill for reorganization of the State Board of Health was passed but has not yet been signed by the governor.

Baltimore

Personal.—A luncheon was given by Dr. Lewellys F. Barker at the Baltimore Club, April 1, to Drs. Louis Hamman and Paul Clough, who sailed for Europe the following day.——Dr. Herbert C. Evans, Baltimore, sailed for Europe March 23, to attend the International Congress of Anatomists to be held in Brussels.

The Trimble Lectureship.—The amount needed for the Trimble Lectureship is nearly completed and will be turned over to the Medical and Chirurgical Faculty of Maryland. Its purpose is to have a fund sufficient to yield an annual income of $1,000. The lectureship is in memory of Dr. Isaac Ridgeway Trimble, who died in Baltimore, Feb. 24, 1908.

MASSACHUSETTS

Personal.—Dr. Elmer E. Southard, Cambridge, has been appointed by President Gorgas, a member of the Council on Medical Education of the American Medical Association to fill the unexpired term of Dr. William T. Councilman.——Dr. W. Burton Thorning, Winchendon, accompanied by his wife and son, has started for Europe.——Dr. Charles W. Page, superintendent of the Danvers State Hospital, has resigned on account of illness in his family, and will be succeeded by Dr. H. W. Mitchell.——Dr. Joseph F. O'Shea has been appointed city physician of Lynn.——Dr. Emelie H. Jones Barker, resident physician at Wellesley for thirty-five years, and for more than twenty years superintendent of Eliot Cottage, has resigned.——Dr. S. B. Wolbach has been appointed assistant professor of bacteriology, and Dr. Walter R. Brinckerhoff, assistant and instructor in pathology from 1903-1906, and since that time connected with the national leprosy investigation at Molokai, H. I., has been appointed assistant professor of pathology in Harvard Medical School.

Hospital of Dentistry and Oral Hygiene.—A hospital of dentistry and oral hygiene has been opened at 31 Anderson street, Boston, under the charge of Dr. Alice M. Steeves.

Safe and Sane Fourth.—The Lawrence Medical Club has appointed Drs. George B. Sargent, John Parr, and Gustave E. Kurth, a committee to attempt to bring about "a safe and sane Fourth of July" in Lawrence and surrounding towns.

Bequests to Hospitals.—By the will of the late Lillie B. Hill, Malden, $1,000 is bequeathed to the Malden Hospital.—— The will of the late Martha Rebecca Hunt, Somerville, leaves a bequest of $15,000 to the Baldwinville Cottage Hospital, one of $5,000 to the Charlestown School and Children's Hospital, one of $10,000 for the Massachusetts General Hospital, and one of $10,000 to the Willard Hospital, Bedford.

MISSOURI

Asks Release of Appropriation.—Three members of the board of managers of the State Sanatorium for Tuberculosis, Mount Vernon, appealed to Governor Hadley, March 23, to release $35,000 appropriated by the state legislature for the erection of a new building.

Medical Library.—The St. Joseph-Buchanan-Andrew County Medical Society is about to install a medical department in the public library. Arrangements have been made with the public library board whereby the society will provide 500 standard medical books and about 25 reliable medical periodicals to be circulated through the library.

Hospital Bills Signed.—The ordinance regulating the reorganization of the eleemosynary institutions of St. Louis was signed by the mayor, April 1, and went into effect April 10. The ordinance provides that instead of a superintendent in charge of each institution there shall be a hospital board composed of six citizens appointed by the mayor, who constitutes the seventh member of the board. The board shall contain not more than one physician from any one medical college. The board will appoint a commissioner, not a member of the board, who shall have supervision over the medical staff in charge of each institution. A chief physician with a staff of interns under him will be in charge of each institution. All the city dispensaries, the City Hospital, Female Hospital, Poorhouse, Quarantine Hospital and Industrial School come under the control of this board.

NEW JERSEY

Personal.—Dr. John J. Broderick has been appointed city physician of Jersey City, vice Dr. Henry H. Brinkerhoff, resigned to become director of the public schools medicine inspection department.——Dr. J. Franklin Chatten, Trenton, has returned from abroad.

Physicians Raise Fees.—In accordance with a decision made at a meeting three weeks ago, the Gloucester County Physicians' Protective Association raised their fees fifty per cent., beginning April 2. The high cost of living and the difficulty of collecting many accounts are given as the causes of the increase.

Preventorium Moves.—The Children's Tuberculosis Preventorium has been moved from the Cleveland Cottage, Lakewood, N. J., to Farmingdale, six miles north of Lakewood, where 100 acres of woodland and a free lease for twenty-five years of a 200-acre stock farm have been presented to the institution.

State Pediatric Society.—The New Jersey State Pediatric Society was organized in Hackensack, January 11, in connection with a symposium on "Infant Feeding" by the Bergen County Medical Society, when 13 physicians of the state met on the invitation of Dr. J. Finley Bell, Englewood, and after a statement by Dr. Henry L. Coit, Newark, effected organization. On February 3, at a meeting in Newark, permanent officers were elected.

Vivisection Bill Introduced.—At the request of Mr. Minard a bill has been introduced in the house, regulating vivisection, and providing that no person except a duly qualified physician or surgeon may perform vivisection; that it must be performed to advance knowledge which will save or prolong life, and alleviate human suffering; the operation must be performed under the direction of two members of the state commission; curare must not be used; no operation is to be begun until the animal is completely anesthetized, and the two commissioners shall, when desired, witness the operation.

NEW YORK

For Hempstead Hospital.—The Hempstead Hospital Association of Hempstead, L. I., has filed incorporation papers and will take over the South Shore Hospital.

Would Help Babies.—The Babies Dairy, organized to operate in New York City, and formed to supply proper food to orphans, pauper, destitute and sick children and to care for and board such children, and to educate mothers in the care and feeding of children, has been incorporated.

City Aid for Hospitals.—The legislature has been asked to authorize the city of Lockport to raise money for the purpose of improving, operating and maintaining the city hospital in that city and to issue bonds therefor.——A bill is before the legislature asking that the city of Mount Vernon be authorized to make an annual appropriation for the care and maintenance of the Mount Vernon Hospital.

Plans for County Tuberculosis Hospital Approved.—The proposed tuberculosis hospital for Monroe county will be on the cottage plan following the suggestion of Dr. Eugene H. Por-

ter, state health commissioner, that three or four cottages be built on the site selected. An administration building will be also erected to contain the offices of the institution and apartments for the officers. The hospital is to be built on the county farm site in West Brighton.

Release of Insane Prisoners.—The Attorney General has advised C. V. Collins, State Superintendent of Prisons, that a patient at the Dannemora State Hospital for the Criminal Insane, whose term of imprisonment has expired, but who continues to be insane, is not entitled to be paroled. If the condition of the patient is such that it is reasonably safe for him to be at large and he has friends or relatives willing to maintain him he may be discharged by the medical superintendent of the hospital.

New York City

Museum of Safety.—With the assistance of the Public Health Section of the New York Academy of Medicine, it is hoped to raise $5,000,000 as an endowment for the Museum of Safety. Dr. William H. Tolman is director of the proposed institution.

Personal.—Dr. Sidney D. Wilgus, chairman of the Board of Alienists of the New York Commission in Lunacy, has been appointed superintendent of the Elgin, Ill., State Hospital, vice Dr. Vaclav H. Podstata, resigned, and will assume charge of the institution May 1.

Dentists for Hospital.—It has been announced that a dentist and an assistant dentist will be appointed to Mount Sinai Hospital for the purpose of caring for the teeth of patients in the wards. Special care will thus be secured for the teeth of patients suffering from affections of the mouth, throat or digestive tract.

Mott Memorial Library Goes to Academy of Medicine.—The Mott Memorial Library, which was founded by the late Louise D. Mott as a memorial to her husband, Dr. Valentine C. Mott, the surgeon, is to be sold in an action for partition brought by a granddaughter of Dr. Mott. The property was bought as a permanent home for the medical books, surgical instruments and anatomic plates left by Dr. Mott. The New York Academy of Medicine will take these articles and mark them.

Endowments.—Among the recent endowments to the New York Polyclinic Medical School and Hospital are one of $250,000 from Mr. William P. Clyde and one of $125,000 from Mrs. Helen Hartley Jenkins.——The will of Mrs. Amelia Kaufman bequeathes $1,000 each to Mount Sinai Hospital, the Hebrew Benevolent and Orphan Asylum, the Montefiore Home for Chronic Invalids, the Home for Aged and Infirm Hebrews, the United Hebrew Charities and Beth Israel Hospital.

Crusade Against Venders of Wood Alcohol.—The Department of Health has begun a campaign against sellers of wood alcohol. Inspectors have visited many saloons and taken samples of liquors offered for sale for analysis. Of the first fifteen samples analyzed three contained wood alcohol. This step has been incited by the number of cases of blindness due to wood alcohol that have come to the notice of physicians and by the records of the coroner's office, which show a number of deaths each year attributed to wood alcohol.

NORTH CAROLINA

Alleged Violators of Prohibition Law Acquitted.—Dr. Millard F. Fox, Guilford College, president of the Guilford County Medical Society, who was on trial at Greensboro for alleged violation of the state prohibition law, was promptly acquitted. ——Dr. Louis N. Burleyson, Greensboro, tried by the same court on the charge of having issued sixty-six prescriptions for whiskey during January, was also promptly acquitted. During the last few months several such prosecutions have been made at different places in the state, and in each instance the accused physician has been promptly acquitted.

OHIO

Doctors' Building for Canton.—A three-story brick and stone office building, containing twelve suites of rooms, to be used exclusively by physicians and dentists, will be erected by Dr. Charles A. Crane.

New Tuberculosis Hospitals.—The counties of Auglaize, Allen, Mercer, Van Wert and Shelby will join in the building of a tuberculosis hospital at Lima to cost $75,000.——The bonds have been sold by the county commissioners for the erection of the Franklin County Tuberculosis Hospital. The structure will be three stories in height, and will be built on the grounds of the Franklin County Infirmary.

Illegal Practitioners Found Guilty.—Nora Cook, Columbus, charged with malpractice, is said to have been found guilty, March 30, and sentenced to imprisonment for two years in the state penitentiary.——Three out of five persons arrested in Toledo the last week in March by the State Medical Board, on the charge of practicing medicine without legal authority, pleaded guilty and were fined $25 and costs each.

Injunction Wiped Out.—The recent decision of the Supreme Court in the Rose case, upholding the right of the State Board of Medical Registration and Examination to revoke certificates, wipes out a number of injunctions restraining the board from acting in eight cases, in which certificates of physicians charged with improper conduct had been revoked. These cases will be considered by the board at the April meeting.

Did Not Report Births and Deaths.—Dr. Joseph J. Boone, Mount Victory, is said to have been found guilty of refusing to return certificates of births and deaths as required by statute, and to have been fined $5 and costs. In his defense, Dr. Boone said he had meant to comply with the law, but had been unable to secure the information within the ten days required. The fine was suspended for sixty days pending an appeal to the higher court.

Society Meetings.—The Physicians' Business Men's League of Dayton, at its annual meeting March 29, elected the following officers: President, Dr. Claude N. Christman; vice-presidents, Drs. Charles E. Shawen and Webster S. Smith; secretary-treasurer, C. C. McClain, and censor, Dr. William H. Swisher.——The Ohio Alumni Association of Jefferson Medical College met for organization at Dayton, March 15. Dr. Alonzo H. Dunham, Dayton, was elected temporary chairman, and Drs. Fred Fletcher, Columbus, and Richard S. Gauger, Dayton, secretaries. It was decided to hold the first regular convention of the society in Toledo May 4-6.

PENNSYLVANIA

Schuylkill County's Bulletin.—The most recent addition to the group of the county medical society papers, is the Bulletin of the Schuylkill County Medical Society.

Additions to the State South Mountain Sanitarium.—The Department of Health announced, April 8, that sealed proposals would be received by the Commissioner of Health until April 29, for the furnishing of all labor and materials necessary for the construction of the following buildings of the Pennsylvania State South Mountain Sanitarium, Mont Alto, in accordance with the plans on file at Harrisburg: 15 cottages; pavilion; alterations and additions to infirmary; nurses' and physicians' dining buildings at camp and infirmary; children's building; alterations and additions to laundry and alterations and additions to main dining building.

Philadelphia

Bequest.—The will of the late William D. Ziegler bequeathed $10,000 to the German Hospital for the establishment of two free beds in memory of the testator's parents, George J. Ziegler and Anna Barbara Ziegler.

Opportunities for Clinical Work.—Several vacancies exist in the throat, nose and ear outpatient service at the German Hospital, and these are open to young men desirous of becoming assistants. Applications should be made to the chief of clinic.

Hospital Addition.—Thomas Bradley, who had offered $25,000 for an addition to the Methodist Hospital, to be known as Bradley Hall, has increased his offer to $35,000. Work on the hall, which will contain the kitchen and offices of the hospital, thus making room in the main building for 50 more beds, will be started May 1.

Gifts to College of Physicians.—At the stated meeting of the College of Physicians, April 6, a marble bust of the late Dr. George B. Wood, the gift to the College by Messrs. Craige, Walter and J. Bartram Lippincott, was presented by Dr. Horatio C. Wood, Jr., and a marble bust of Dr. Horatio C. Wood, the gift of Mr. George Wood and Mr. George Wood Bacon of New York, was presented by Dr. James Tyson.

Progress in Medical Library.—It is announced that the Central Free Library will be the first of the city library system to establish a medical section, and all physicians having surplus medical books or journals are requested to send them to Mr. John Thomson, chief librarian. This is the work of the Philadelphia County Medical Society, which desires ultimately to have a medical section in all the free library branches in the city.

To Raise $20,000 for Penn Dispensary.—Marking the centennial anniversary of the obstetric department of the University of Pennsylvania, an effort was begun, April 6, to raise an endowment of $20,000 to perpetuate the Southeastern Dispensary, which is conducted by the department and which was started 20 years ago by Dr. Barton Cook Hirst. The first gift of $1,000 toward the $20,000 was received April 6, from Dr. Richard A. Cleman, an alumnus of the university, who, as the executor of an estate, had a sum for charitable insitutions, and made this contribution to the dispensary fund. During the last year, according to the dispensary report, 1,200 families received medical attention there.

Personal.—Dr. Edward J. G. Beardsley has been appointed chief of the medical dispensary of Jefferson Medical College Hospital.——Dr. Henry R. M. Landis has been appointed director of the Tuberculosis Department of the Phipps Institute of the University of Pennsylvania and associate of medicine at that college.——Dr. John C. Flynn has been made pathologist to St. Joseph's Hospital.——Dr. Pierre N. Bergeron has been appointed visiting physician to the medical department of St. Joseph's Hospital, vice Dr. Michael T. Prendergast, resigned. ——Dr. Charles H. Frazier, clinical professor of surgery in the University of Pennsylvania, underwent operation for appendicitis at the University Hospital, March 30.

Cocain Crusade.—A crusade against the illegal sale of cocain was inaugurated, March 29. The work is being conducted under the direction of Dr. Christopher Koch, of the State Pharmaceutical Board. Several physicians have been arrested and also more than a score of druggists and all have been held under bonds ranging from $400 to $1,000. It has been learned that the drug has not only been distributed to habitual users but has even been given to public school pupils. In going over the reports of wholesale dealers as to the amount of cocain sold, it was found that one had sold 1,900 ounces of the drug in one month, while another's sales amounted to 1,400 ounces. This would make yearly sales of between 15,000 and 20,000 ounces, which amount it is claimed, is entirely too high for the quantity of the drug which can be disposed of legally. On April 7, Judge Carr is reported to have sentenced George and Charles Rollins, negroes, to two years in jail and imposed on them a fine of $500 each for illegally selling cocain. The arrest, on April 8, of Benjamin P. Ashmead, U. S. Government inspector of drugs at this port, on the charge of unlawfully selling cocain, will, it is said, be followed by more startling disclosures when he is arraigned before Magistrate Beaton. The arrest of Ashmead is regarded by Dr. Koch as the most important of the whole crusade so far, though there are other men of equal standing who are under suspicion.

Private Societies Aid in Campaign Against Infant Mortality.—The Philadelphia Bureau of Municipal Research and several other societies and private agencies will begin, June 1, a campaign to decrease infant mortality, which, later, it is expected, will be taken up and continued by the Department of Public Health and Charities. Dr. Neff, director of the Department of Health, desired to organize a division of child hygiene, with a corps of trained nurses, to make a house-to-house canvas in the congested sections, to instruct mothers in the care of children. Last summer, a volunteer corps was organized from among the charitable organizations and the Babies' Alliance was formed. As a result of the systemic work of these volunteers, the mortality in 1909, among children under 5 years, was 11 per cent. less than in 1908, when special work was commenced, and 16 per cent. less than in 1907. Councils have appropriated no money and there is no volunteer service available this year, so that nothing could have been done along this line had not the Philadelphia Bureau of Municipal Research and other societies planned to take up the work. The Bureau of Municipal Research has been investigating conditions in all the city's departments and bureaus for a year. In his annual report, April 14, to the mayor, Dr. Neff said: "One-third of all infants, born alive, die before the fifth year of life, 65 per cent. of these deaths being preventable. Still further effort has been exerted to reduce this unnecessary slaughter. The organization of a division of child hygiene, with a corps of municipal nurses, would solve the problem, but this has not been practical as yet, it is believed, on account of insufficient funds. Education of the mother by the public press, by circulars and by lectures has been beneficial, but frequently has failed to reach those for whom it is intended. The keynote of the situation is in the home, to reach which the department has endeavored to procure volunteer visitors through charitable associations."

RHODE ISLAND

Fined for Unlawful Practice.—Gesumina Maccarone, Providence, arraigned on a warrant sworn out by the secretary of the State Board of Health, on the charge of intent to practice medicine without a license, is said to have been found guilty and fined $50 and costs, March 17.

New Consulting Staff.—The following staff of consulting physicians for the City Hospital, Providence, has been appointed and confirmed by the State Hospital Commission: Medicine, Drs. Frank L. Day, Edmund D. Chesebro, William F. Gleason and Joseph M. Bennett; surgery, Drs. Edgar B. Smith and John W. Keefe; ear, nose and throat, Drs. Edward S. Bacon and N. Darrell Harvey; eye, Drs. Frederick T. Rogers and George W. VanBenschoten; dermatology, Drs. Gardner T. Swarts, Harry W. Kimball and John T. Farrell, and pathology, Dr. Frank T. Fulton.

TEXAS

New Editor.—The trustees of the State Medical Association of Texas have elected Dr. Holman Taylor, Marshall, editor of the *Texas State Journal of Medicine*, and he moved to Fort Worth and assumed charge of the work, April 1. Dr. Ira C. Chase, the former editor, who declined to accept the editorship again, will remain in Fort Worth for two months to induct Dr. Taylor into the work and will then go to Europe for a year of study.

Dispensary Organized.—The San Antonio Free Dispensary and Hospital Association was organized February 17. At a subsequent meeting March 1, the following medical staff was elected: General and abdominal surgery, Dr. Charles S. Venable; gynecology and obstetrics, Dr. William E. Luter; diseases of the eye, ear, nose and throat, Dr. John V. V. Spring; genitourinary surgery, Dr. F. C. Walsh; internal medicine, Dr. Milton J. Bliem; diseases of children, Dr. Edward C. Clavin, and nervous diseases, Dr. George H. Moody.

For Adjudication by Law.—In the case of J. Lafayette Berry, known as "Phenomenal Lafayette," the jury in the Forty-fifth District Court, San Antonio, is said to have decided that the license to practice medicine should be withdrawn. ——A writ of error was granted by the Supreme Court, March 16, in the case of the State Board of Medical Examiners versus Henry and E. C. Zindell Taylor, Paris. In this case, the board refused the latter a license for general practice, but offered a verification license to practice in diseases of women and children, and the court holds that the petition does not show the right to verification certificate for general practice of medicine.——W. E. Baird of Jefferson county has filed application in the District Court, March 22, asking a writ of mandamus against the State Board of Medical Examiners, compelling the board to grant him a verification certificate.——A. William Terrell, an osteopath of Tyler, is said to have pleaded guilty to practicing medicine without a license, and to have been fined $50 and sentenced to thirty minutes' imprisonment in jail.

VIRGINIA

Plan for Epileptic Colony.—The board of trustees of the State Epileptic Colony met in Lynchburg, March 24, and organized with Dr. Henry W. Dew, Lynchburg, as chairman. The board will elect a superintendent at its April session. It favors the cottage plan for the colony.

New Wing for Hospital.—Through the liberality of Mr. Charles Steele, New York, $50,000 has been presented to the University of Virginia Hospital, Charlottesville, with which it is planned to add a new wing to the hospital building, which will contain a modern teaching dispensary and well equipped clinical laboratory.

Unlicensed Practitioner Fined.—In the Norfolk police court, February 24, F. G. Wright, who had practiced medicine in South Mills and vicinity for several years, was tried at the instance of the Pasquotank Medical Association, and is said to have been found guilty of practicing medicine without a license and fined $50 and costs.

Tax on Professional Men.—The finance committee of the Norfolk City Council, April 1, decided on a tax on attorneys, physicians, surgeons, oculists, osteopaths, opticians, and veterinary surgeons who have practiced their professions for from one to five years, $10; for over five years, $25; and in addition thereto 1.40 per cent. of the gross receipts from practice in excess of $1,000 for the year ending April 30, provided that the license tax shall not be more than $10 a year or any part thereof if the receipts be less than $500 for the year preceding.

WASHINGTON

Pure Drug Store as Well as Pure Drugs.—Members of Pierce County Medical Society are favoring druggists who do not distribute samples of dangerous drugs to residences.——The society has been an important factor in establishing drug stores devoted entirely to compounding prescriptions.

Hospital News.—The Catholic Sisters of Walla Walla have decided to erect a hospital to cost $150,000.——Improvements about to be undertaken at Fannie Paddack Hospital, Tacoma, are expected to cost $500,000, and when finished, the hospital will cover an entire block.——The Sacred Heart Hospital, Spokane, moved into its new building in the Manito Park district, March 24.——The King County Board has given orders for the erection of additional cottages at the County Hospital for Tuberculosis, Georgetown.——St. Joseph's Hospital, Tacoma, is to be enlarged at a cost of between $50,000 and $60,000. At present the institution has accommodation of about 90 patients.

GENERAL NEWS AND COMMENT

Hospital to be Moved.—During the month of May, the State Hospital, Puebla, Mexico, will be moved from its present location to its new quarters on the old Rancho Noriatenco.

Annual Meeting of Society.—At the annual meeting of the Manila Medical Society, held January 3, the following officers were elected: President, Dr. Vernon L. Andrews; vice-president, Dr. Philip K. Gilman; secretary-treasurer, Dr. Arthur F. Coca, and councilor, Dr. Edward R. Stitt.

Care of the Exceptional Child.—The National Association for the Study and Education of Exceptional Children will meet in New York City April 21 and 22. The topics for discussion at the various sessions are "Recognition of the Problem of the Exceptional Child;" "Phases of Exceptional Development," and "The Perspective in the Problem of the Exceptional Child."

The Permanent Committee for the International Medical Congresses.—This committee, organized at the last international medical congress at Budapest, now has headquarters at the Hague. Professor Pavy of London is chairman, and Professor Wenckebach of Groningen is secretary. Most of the nations have already appointed their representatives on the committee.

Students of Epilepsy.—The National Association for the Study of Epilepsy will hold its annual meeting in Osler Hall, Baltimore, May 7, under the auspices of the Maryland Psychiatric Society. The purpose of the association is to awaken the interest of the profession and the public in the treatment of epilepsy, and especially to induce the state to establish a colony similar to those of other states, and especially Virginia, which has received an appropriation of $100,000 for this purpose.

Work of the Health Education League.—Pamphlets 17 to 21 of the "Health Education Series," published by the Health Education League, Boston, have been received. They comprise such subjects as health in labor camps, tuberculosis, when to call a physician, habits of health, and wastes and their disposal. These pamphlets are written in the same sensible, popular style as those formerly issued, and contain much useful information and sound advice in matters of health and sanitation. They should have wide circulation, and the league should be encouraged in its work.

Personal.—Drs. G. Betton Massey, Philadelphia, and Fred H. Morse, Boston, are delegates from America to the International Congress of Physiotherapeutics, to be opened at the Sorbonne, Paris, March 29.——Dr. Charles W. Stiles, chief of the division of zoology of the United State Public Health and Marine-Hospital Service, and head of the Rockefeller Commission for the Eradication of Hookworm, has decided to make Raleigh, N. C., his permanent headquarters during his investigation.——Dr. Helen I. McGillicuddy has been appointed secretary of the Canal Zone Committee on Public Health and Preventive Medicine.

Tuberculosis Sunday.—April 24 has been set aside by the National Association for the Study and Prevention of Tuberculosis as the day on which the subject of tuberculosis is to be presented in churches in all parts of the United States. Clergymen of every denomination have been asked to cooperate, and in New York State in more than sixty cities and towns, they will preach on "No Uncared-for Tuberculosis in 1915." Labor unions in every large city are to be asked to attend church in a body on this day or to have the subject of tuberculosis brought up at their regular Sunday meeting.

Training of Attendants for Insane Hospitals.—One of the most important purposes of the Chicago School of Civics and Philanthropy, as stated in the announcement of summer courses, is to provide training for attendants in institutions for the insane. The first session of a summer school for this purpose was held from July 7 to August 7, 1908; the second session from June 28 to July 30, 1909, and the third will be held from June 21 to July 29, 1910. As the care of the insane is the most important institutional work carried on by the various states, this training course should be instrumental in securing better care for these unfortunates.

Missouri Valley Meeting.—The semi-annual meeting of the Medical Society of the Missouri Valley was held in Omaha, March 17 and 18. Dr. Frank P. Norbury, Hospital, Ill., delivered the address in medicine on "The Physical Basis of Mental Disease," and the address in surgery by Dr. Leonard Freeman, Denver, was on "Local Anesthesia." The society adopted resolutions setting forth that, as this is the day of specialized technical training among all lines of scientific care for the defective, dependent and delinquent classes of society, it commends the passage of such civil-service reform laws as shall demand the merit system of appointment and retention in all public institutions for the above classes, and deprecates the relegation of such appointments to the political spoils system.

Von Eiselsberg of Vienna Visits America.—Prof. Anton Freiherr von Eiselsberg, accompanied by his wife, arrived in Baltimore a few days ago, where he visited his brother-in-law, Prof. Clement von Pirquet. On Thursday evening, April 14, he was the guest of the Chicago Surgical Society at a dinner given at the University Club. Prof. von Eiselsberg will also visit St. Paul and other cities which are regarded as centers of surgery. Prof. von Eiselsberg was president of the German Surgical Association in 1908. In 1904 he declined a call to Berlin, preferring to remain in his native country, Austria, although before he was called to the chair of surgery at Vienna he had held similar chairs at Utrecht and Königsberg. His contributions to surgical literature have been numerous and important.

Officers of School Hygienists.—At the annual meeting of the American School Hygiene Association, held in Indianapolis, March 2-4, the following officers were elected: Honorary presidents, Drs. Arthur T. Cabot and Henry P. Walcott, Boston, and Dr. John H. Musser, Philadelphia; president, Dr. Luther H. Gulick, New York City; vice-president, Dr. Robert W. Lovett, Boston; secretary-treasurer, Dr. Thomas A. Story, New York City, and councilors, Drs. John J. Cronin and Abraham Jacobi, New York City; Philip King Brown, San Francisco; Walter E. Fernald, Waverly, Mass.; Henry M. Bracken, Minneapolis; J. H. McCurdy; Charles O. Probst, Columbus, Ohio; Frederick Forchheimer, Cincinnati; Washington E. Fischel, St. Louis; George Meylan, New York City, and William H. Welch, Baltimore; and Fletcher B. Dresslar, Ph.D., Alabama; Elmer E. Brown, Ph.D.; William Henry Burnham, Ph.D.; Thomas M. Balliet, Ph.D., New York City; Joseph Lee, LL.D., Boston; Calvin N. Kendall, A.M., Indianapolis; George H. Martin, LL.D., Massachusetts; Edward L. Stevens, L.H.D., New York City; J. J. Storrow, Boston; Edwin O. Jordan, Chicago; L. N. Hines, A.B., B.M., Crawfordsville, Ind.; Willard S. Small, Ph.D., Washington, D. C., Clark W. Hetherington, Ph.D., Missouri, and the officers of the association.

CANADA

New Home for Academy.—The trustees of the Academy of Medicine, Toronto, who wish to spend $30,000 in erecting a large stack-house and new assembly rooms, have failed to secure the necessary right from the university authorities, on whose land they are domiciled, so will be given new quarters on university property.

Hospital News.—The misunderstanding between the governors of the Regina General Hospital and the medical practitioners is said to be adjusted. Hereafter no medical man will be on the board of governors, but there will be an advisory medical board of three practitioners, elected by the medical staff of the hospital.——Arcola, Sask., is to have a new hospital.——Regina, Sask., will erect a new Isolation Hospital.——Saskatoon, Sask., will erect an addition to the municipal hospital.

Personal.—Dr. Harvey Smith, Winnipeg, has returned from a trip to the Bahamas.——Dr. Charles J. Hastings, Toronto, Chairman of the Milk Commission of the Canadian Medical Association, is visiting Victoria, Vancouver and other western cities organizing local milk commissions.——Dr. E. A. McCullough, Toronto, has been appointed superintendent of the new Sanatorium for Tuberculosis, London, Ont.——Dr. Charles Sheard, for 18 years medical health officer of Toronto, has resigned and will devote himself to private practice.

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, March 26, 1910.

Treatment of Syphilis by Injections

A new edition of Hutchinson's work on syphilis has appeared in which he again condemns the use of injections of insoluble preparations of mercury in the treatment of syphilis. He says that only a small part of the evil resulting from it is ever reported, and adds that in certain cases this method is followed because it is more profitable than prescribing mercury by the mouth.

Of the new organic preparations of arsenic—atoxyl, soamin, etc.—which have been much recommended of late, evidence is also accumulating that they are dangerous innovations. Sir Jonathan Hutchinson considers them liable to all the disadvantages of the older preparations of arsenic and without any advantages over them. "Laudatory notices," he says, "are written by those who have little knowledge of what Fowler's solution can do and who would be more profitably employed in studying the properties of old-established simpler drugs than in urging the claims of new ones. Why should the attention be wearied and the memory burdened with details as to soamin and atoxyl, when, after all, nothing is claimed which has not already been amply proved for liquor arsenicalis, and the probability is not disputed that, although efficacious, in comparison with mercury they are only second best?" Moreover, it is now proved that these preparations are dangerous to the eye, for they are liable to cause optic neuritis.

On this point some interesting disclosures have been made in the *British Medical Journal* by Mr. Ernest Lane, a surgeon of considerable experience in the treatment of syphilis, and they have led to the prompt discontinuance of these drugs in some of the London hospitals. In 1908, Mr. Lane reported a series of twelve cases of syphilis in which he had used arylarsonates. He regarded the treatment as very successful and advocated it until the middle of last year, when he had reason to regret that he ever used it. He gave a syphilitic patient 10 injections of orsudan in 10 gr. doses on alternate days. The patient then suddenly became blind and was found to be suffering from double optic atrophy. Mr. Lane therefore at once abandoned the treatment. A second case has recently come under his notice in which a patient became blind after a course of 15 injections of soamin in 5 gr. doses. In a third case, an elderly patient was given a course of injections of soamin for sciatica and after 60 gr. had been administered met with the same fate. In a fourth case, a patient suffering from lymphadenoma was treated with soamin and became totally blind. Mr. Lane concludes with a serious criticism of the well-known firm of Burroughs, Wellcome & Co. In a pamphlet commending these arsenical preparations they reproduce, among others, the cases Mr. Lane orginally described. They only casually mention the fact that signs of intolerance, such as visual disturbances, nausea, vomiting, etc., have been encountered after soamin and should be a signal for withholding the drug. This is the only warning note, though they were informed by Mr. Lane of one case of total and irremediable blindness after the use of orsudan and knew that he had abandoned the treatment.

The injection method of treating syphilis has never been so popular in Great Britain as on the Continent of Europe; in Great Britain it is little used by the general practitioner. Many deaths from poisoning have been reported after the injection of insoluble preparations. In France, Professor Gaucher has reported ten deaths from injection of the favorite French preparation—grey oil.

[The experience of Mr. Lane is referred to in an article in Pharmacology in this issue.—ED.]

The Cambridge Hospital for Special Diseases

A new departure in hospitals was inaugurated four years ago by a Committee for the Study of Special Diseases consisting of some of the most eminent members of the profession—Sir Jonathan Hutchinson, Sir Clifford Allbutt, Professor Osler, and others. The object was to study certain diseases which in consequence of their chronic character and uneventful course receive little attention from clinicians and pathologists. The patients are, as a rule, refused admission to hospitals because they would encumber the beds which can be more profitably devoted to acute cases. A small hospital containing only four or five beds was founded at Cambridge for the purpose of the study of such diseases under the direction of Mr. Strangeways, lecturer on special pathology at the university. This little hospital is principally supported by subscriptions from members of the medical profession who also cooperate in the work by sending suitable cases. The work of investigation is of the most thorough-going scientific kind and bulletins describing it are published from time to time. At present, an investigation is proceeding on that most hopeless malady—rheumatoid arthritis. The patients have been selected from a large number sent by physicians throughout the country, and notes on over 1,000 cases of various forms of arthritis have been collated. The nature of the work done is shown by the last number of the bulletin. An elaborate study of the blood pressure in arthritic diseases is contributed by Dr. Lambert. Dr. James Lindsay discusses the relation of infective foci to rheumatoid arthritis and analyzes 172 cases. Of these 138 occurred in women, among whom no infective focus was found in 65, a vaginal discharge was present in 36, pyorrhea alveolaris in 19, otorrhea in 7, gastric ulcer in 5, the disease followed labor in 4, there was rhinorrhea in 1, and chronic lacunar tonsillitis in 1. Of 34 patients no infective focus was found in 19, there was gonorrhea in 10, otorrhea in 3, rhinorrhea in 1 and the disease followed furunculosis in 1. These figures show that in 52 per cent. of the females and 44 per cent. of the males an infective process preceded the disease and they indicate a causal connection. Mr. Strangeways has studied the conjunctival reaction to tuberculin in 340 cases of arthritic disease, clinically of a non-tuberculous kind, including rheumatoid arthritis, gout, chronic rheumatism, acute articular rheumatism, subacute rheumatism, gonorrheal rheumatism, Charcot's disease, osteitis deformans, and arthritis of doubtful nature. He found a positive reaction in 210 or 62 per cent. In six of these cases he was able to make a necropsy. In two cases in which the reaction was negative there were old tuberculous scars at the apex of one lung; in a third which gave a slight reaction, and in a fourth which gave a severe reaction old tuberculous scars were present but there was no evidence of active mischief; in a fifth which gave a severe reaction no sign of tubercle was found; and in a sixth which gave no reaction no evidence of tubercle was found. In view of the observations of others these results are regarded as "strange and disconcerting." Dr. H. Ackroyd gives some careful observations on purin metabolism in rheumatoid arthritis. He finds that acute or subacute attacks are sometimes accompanied by increased purin excretion.

The Annual Meeting of the British Medical Association

The next annual meeting of the British Medical Association will be held in July at the University of London and the adjacent buildings of the Imperial College of Science and Technology at South Kensington which will provide ample accommodation for the various sections. These buildings are in a portion of London largely devoted to science and art; close at hand is the Natural History Museum and the art galleries of the Victoria and Albert Museums. The annual exhibition will be arranged in the great hall in the west gallery of the university and in the galleries overlooking the reception room.

The Progress of Cremation

Cremation continues to make only slow progress in Great Britain. The number of cremations in 1909 was only 855, an advance of 60 on the previous year. The whole total since the opening of the first crematorium in 1885 to the end of 1909 is 8,121. The Cremation Society continues actively its propaganda work but the support it receives is almost confined to persons of advanced views of one kind and another, many of whom are eminent in science or the arts.

Death Under Anesthesia for Tooth Extraction Attributed to the Status Lymphaticus

The status lymphaticus has recently occupied a prominent position as a cause of death under anesthesia even in adults. In the latest case, a woman, aged 37, died when under a mixture of chloroform and ether given by the open method for tooth extraction. A curious fact was that a few weeks previously she had had 9 teeth extracted successfully under the same anesthetic given by the same administrator and took it well. On the second occasion she changed color when one root was extracted and all attempts to resuscitate her failed. The anesthetic had been administered five and one-half minutes. Artificial respiration was kept up for four hours because she showed signs of rallying. The necropsy showed enlargement of the lymphatic glands of the tongue and throat, and thymus gland weighing one and one-half ounces. At this age the organ of course should have been absent. There was also chronic Bright's disease.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, March 25, 1910.

Experimental Typhoid Fever

In the session of March 21 of the Academy of Sciences, Professor Metchnikoff made a communication on experimental typhoid fever. Up to the present, no one had succeeded in communicating typhoid fever to animals under conditions analogous to those under which man contracts this disease; that is to say, by ingestion of typhoid bacilli. M. Metchnikoff thought that the failure of the experiments made on this subject were due to the fact that the animals were fed pure cultures of the Eberth bacilli, while typhoid infection in man manifests itself after the absorption of dilutions of excreta charged with bacilli. He gave a chimpanzee food contaminated with a dilution of this kind and at the end of six days observed a disease presenting all the characteristics of typhoid fever. There will be hereafter, therefore, a means of learning whether the vaccines, the employment of which had been proposed for man, can prevent the disease, and if the serums prepared for typhoid fever are really efficacious.

Present Condition of the Medical Syndicates in France

The *Union des Syndicats médicaux de France* has recently celebrated the twenty-fifth anniversary of its foundation. These syndicates are organizations distinct from the medical societies which pursue a scientific end on the one hand, and from the provident societies for the aid of ill or aged colleagues or their families on the other. The medical syndicates are, according to the law, professional associations for the purposes of study and the defense of the interests of the profession. Thus they undertake to mediate in the conflicts which may arise between colleagues, to aid their members whenever the interests of the profession demand it, and to combat the illegal practice of medicine. Out of the 20,877 physicians now in France, 12,013 belong to the 212 syndicates, of which the most important is the Syndicate of the Physicians of the Seine, with 1,420 members. Out of the 212 syndicates, 154 are affiliated with the central organization, called the Union of the Medical Syndicates of France. The latter lends its material and moral support to the syndicates and federations. Thus, in case of legal prosecution undertaken by a local syndicate, the Union of the Syndicates, if the resources of the syndicate are insufficient, shares the expenses. Since, to render illegal practice of medicine amenable to the French law, it is necessary that it be habitual, prosecution is not easy and calls for many proofs. It is to remedy this difficulty and to study the means of suppression that the Union of the Medical Syndicates took the initiative in creating the office for the repression of the illegal practice of medicine, which advises and guides the syndicates. The union has likewise taken an active part in the campaign for the reform of medical studies.

Law in Regard to Period of Rest for Female Teachers During the Period of Childbirth

A law has just been promulgated giving leave of absence of two months with full pay, outside of sick leave, to female teachers, one month before and one month after childbirth. The teacher cannot resume her service until she has undergone medical examination and submitted a certificate stating that she is in condition to do so without injury to her health. In case she is not able to resume her work the leave is prolonged under the same conditions to a limit of two months.

A Straw Vote on the Concours de l'Agrégation

The Society of the Interns of the Hospitals of Paris has just published the results of a referendum which it held among its members on the subject of the *concours de l'agrégation*. The questions were the two following: 1. "Do you favor suppressing the *concours d'agrégation* and replacing it by free recruitment of professors (privat-docentism)?" 2. "Are you in favor of demanding postponement of the *concours d'agrégation* until after the nomination of a commission for the reform of medical studies by the minister of public instruction?"

Out of 130 voting, 103 voted "yes" and 19 "no" on the first question; and 111 voted "yes" and 19 "no" on the second question. It is true that of the 380 members of the *Société de l'Internat*, 250 members did not vote.

Life-Insurance Companies and Professional Secrecy

The *Comité médical des Bouches-du-Rhône* has resolved that its members shall not furnish life-insurance companies, either directly on their own demand, or indirectly on the demand of the beneficiaries of the policies, whether relatives or not of the deceased, any certificate indicating the nature of the disease to which one of their insured patients has succumbed and the circumstances under which he died, notwithstanding the clause of the policy which seems to authorize the demand and the delivery of this certificate.

The council of the organization has, moreover, passed a resolution that, according to an understanding among the great French medical associations, steps should be taken toward the suppression of the clause in life-insurance policies demanding, among the evidence to be produced after the death of the insured, a medical certificate on the nature and the duration of the disease having caused the death, this clause being incompatible with the obligation of professional secrecy.

The Gingeot Prize

This prize, amounting to 1,000 francs ($200) will be awarded by the Medical Society of the Hospitals of Paris, to the author of the best work on the subject of catarrhal icterus (pathogenesis, clinical features and therapeutics). Memoirs bearing on the whole or a part of the subject will be admitted to the contest. They should be deposited with the *Société médicale des hôpitaux de Paris* between October 15 and November 15, 1910.

Election of Two National Correspondents to the Academy of Medicine

In its session of March 22, the Academy of Medicine elected as national correspondents in the surgical section, Dr. Delagénière of Mans, and Dr. Monprofit, professor of clinical surgery at the Angers medical school. Dr. Delagénière is the acting president of the French Surgical Association. Both the new members are especially well-known for their works on abdominal surgery.

Infant Mortality and Industry

At the Academy of Medicine recently, Dr. Oui, professor of obstetrics and the hygiene of infancy at the college of medicine of Lille, and Dr. H. Paucot, head of the obstetrical clinic of the same college, made an interesting report on infant mortality in industrial centers and the dangers of depopulation to which modern industrial customs subject our country. In the industrial centers the working woman is inevitably compelled to give her child into mercenary hands. Around Lille the care of the children that the working-women are obliged to abandon has grown into a regular occupation. Dividing the children of an industrial region into three classes, Drs. Oui and Paucot have ascertained that the mortality is 24 per cent. among children brought up directly by their mothers, 43 per cent. among children cared for by other persons than the mothers at the parents' homes, and 78 per cent. for children put in charge of care-takers. It is easy to see what peril there is leaving to these substitutes the task of bringing up children; not to speak of their ignorance of the most elementary rules of hygiene and of cleanliness, these care-takers, in order to save themselves trouble, resort to dangerous means, such as the administration of infusions of poppy-heads to the infants.

Drs. Oui and Paucot believe that the most efficacious means of remedying this state of things would be to create in each factory and in each large workroom places to which the working woman would bring her child and leave it to be looked after while working; she would thus be able herself to give it the necessary attention from time to time during the day.

The Floods and Typhoid Fever

Fear has been expressed that the floods might be followed by an epidemic of typhoid fever. Facts have shown that this fear is somewhat exaggerated. In studying from this point of view the most important rises of the Seine in the course of the last half century, that is to say, those of 1872, 1876 and 1882, Dr. Jacques Bertillon, head of the statistical department of the city of Paris, has discovered that floods, instead of causing an outbreak of typhoid fever, have been, on the contrary, followed by a marked diminution. This time again the same phenomenon has been observed; from Feb. 20 to Feb. 26, 1910, 31 cases of typhoid fever, with 3 deaths, have been recorded in Paris; for the corresponding week of the five preceding years the average is 36 cases, with 6 deaths.

This apparently paradoxical diminution of morbidity may evidently be explained by the greater precautions taken by the population, especially in respect to alimentary hygiene. In fact, because of the floods most of the inhabitants of Paris have almost entirely ceased to use uncooked vegetables.

The Public Charities and the Physicians of the Hospitals of Paris

The administration of the Public Charities having undertaken to reorganize a hospital service without previously consulting the head of that service, the Society of the Physicians of the Hospitals of Paris has just unanimously passed a resolution, to be transmitted to the Director of the Public Charities, expressing regret that a commission could have been formed to reorganize a hospital service without the head of the service having been asked to take part in it, and even without his having been informed of its reorganization.

A Monument to Rabelais at Montpellier

A committee has just been formed at Montpellier to erect to Rabelais a monument to commemorate his student days at the college of medicine in that city. Of course, the close connection between the illustrious writer of the sixteenth century and the college of medicine of Montpellier is well known. The "robe of Rabelais" was for a long time kept there as a relic, the candidates for the doctorate degree putting it on to pass their final examination.

Election of M. Lucet to the Academy of Medicine

In its session of March 15 the Academy of Medicine elected an honorary member in the Section of Veterinary Medicine to fill the vacant place of Dr. Saint-Yves Ménard, who died last June.

M. Lucet, assistant in comparative physiology at the Museum of Natural History, was elected by 46 votes against 31 for M. Martel, head of the veterinary meat-inspection service. It was M. Lucet who, collaborating with Professor Nocard, published in 1888 the first observation in France of human actinomycosis.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, March 24, 1910.

Personals

Professor Borst of Würzburg has been called to Munich to succeed Professor von Bollinger as director of the pathologic institute.

Professor Bumm, formerly director of the second university gynecologic clinic which is located in the Charité hospital, has been appointed director of the first university gynecologic clinic in place of Professor Olshausen.——Professor Kroenig, the gynecologist of Freiberg, has been elected a successor of Professor Bumm.

Dr. Kehrer, privat-docent at Heidelberg, a son of the former professor at that place, has been called to Bern as successor of Professor Mueller in the chair of gynecology and obstetrics. The Swiss government did not confirm the nomination of the faculty, but decided according to its own choice.

In Bonn, March 16, Professor Pflüger, the most distinguished German physiologist, died at the age of 81. Pflüger was a pupil of Johannes Müller, contemporaneous with du Bois-Reymond and Virchow. He followed Helmholtz in the chair of physiology at Bonn in 1859. The first very important discovery which he published there pertained to the physiology of electrotonus, known in literature as Pflüger's law of contraction. Of his other investigations the best known are on glycosuria. From 1868 he was editor of the *Archiv für die gesamte Physiologie*. Pflüger was a knotty personality who could utter sharp tones in polemics. In late years he had a noted encounter with Minkowski. Further back lies an attack against the deceased professor of physiology, Immanuel Munk, in which Pflüger's dislike of Jews found unpleasant expression. The vigor which Pflüger showed during his last years was astonishing; he published articles even in the latest numbers of his *Archiv*.

March 17 the Munich gynecologist, Professor von Winckel, formerly director of the gynecologic clinic of that place, celebrated the fiftieth anniversary of his doctorate.——A few days ago Professor Emil Richter of Breslau, for many years editor of the *Zentralblatt für Chirurgie*, also celebrated his semicentennial as a doctor——As successor of privy councilor Schmidtmann, councilor Finger of Arnsberg has been appointed chairman of the medical bureau of the department of education.

A Petition Against Noise

In the development of our elevated railroad system an extension of the line in the neighborhood of the hospital in Urban has been planned. Against this project a medical society of this city has petitioned the city council to request that the elevated line be given a different route. It is said that the proximity of the elevated road has caused a great deal of trouble to the patients in the municipal hospital in Gitschinerstrasse.

Hospital Statistics

The authorities have directed that statistics of the number of convalescents, chronic invalids and tuberculous patients in the Berlin city hospitals be obtained with the view to determining the propriety of erecting special hospitals for these classes, so as to relieve the overcrowding of the general city hospitals. In Charlottenburg, which has already arranged for the erection of two hospitals, one for men and one for women and children, to accommodate convalescents and mild cases, it is estimated that the cost of management of the large general municipal hospital will be reduced by this new arrangement from $1.09 to $1 per patient per day, which will mean a saving of about $3,000 of annual expense to the city.

Medical Loan and Death Benefit Bureau

The Leipsic league, like the Berlin Brandenburg medical council, provides a loan bureau for its members in case of need and also a death benefit to the survivors. After a period of five years (with an entrance fee of 50 cents) for an annual premium of $1, a death benefit of $50 is assured. Members who on admission are over 60 must pay a double premium. The highest death benefit paid is $500.

Care of the Insane

The commission of the Berlin city government for municipal care of the insane has determined to establish consultation stations in charge of a nurse and group of charitable men and women, which shall care for the insane on their dismissal from asylum treatment, provide a place of refuge, assistance and employment, and undertake the supervision of their affairs. For the present only a limited field is taken up until more extensive experience has been gained.

Disinfecting Power of the Flat-Iron

In the institute for infectious diseases of this city, in consequence of a publication elsewhere, the question has been investigated how far ironing answers as a method of sterilization for linen; 150 to 250 C. (300 to 480 F.) was estimated as the temperature of the flat-iron. Pieces of linen which had been soaked with impure river water, with tuberculous sputum, with a pure culture of tubercle bacilli, typhoid bacilli, etc., were ironed under various experimental conditions and afterward examined bacteriologically. The results showed that material containing spores, and especially anthrax spores, was not certainly disinfected by ironing at a temperature of even 250 C. Vegetative forms were sterile after ironing with the flat-iron heated to 250. At a temperature of 150 C., which is undoubtedly frequently the temperature used with single pieces of the wash, the success was uncertain or slight. Tubercle bacilli were killed at 250 C., but with an ironing temperature of 150 C. animal experiment proved the germs viable, although markedly reduced in virulence. Dry ironed linen showed a smaller disinfecting action of the ironing than when ironed moist. Ironing the pieces on both sides gave better results than ironing only on one side. According to these experiments a careful application of the ironing process at a temperature of 250 C. will secure a good disinfecting action. It can scarcely be expected, however, that this requirement will be met in practice. It is rather to be feared that any sort of ironing will be assumed to be an effectual guard against infection and a false feeling of security will in this way be engendered.

Heredity of Eye Disease

From an extensive statistical investigation of hereditary eye diseases, especially myopia of high grade, Crzellitzer has shown that the first-born children of families hereditarily affected are much more liable to inherit eye defects than the later children. The consanguinity of the parents is also shown to be a predisposing factor in such heredity. Further, the statistics show that myopia is more frequently transmitted by the mother than by the father. Female children are more apt to inherit myopic defects than male children, while the males seem to show a greater tendency toward the inheritance of other eye lesions.

Birth-Rate Among Jews and Christians

In the period from 1877 to 1882 there were annually 30 births for 1,000 Jewish inhabitants of Prussia and 38 per 1,000 in the rest of the population. Since then the birth-rate

for Christians has fallen to 34 per 1,000 but the Jewish birth-rate has decreased to a much greater extent, as shown by the following: for the years from 1888 to 1892, 23.7; 1893 to 1897, 21.6; 1898 to 1902, 19.7; and 1903 to 1905, 18.2. Thus the birth-rate of Jews in Prussia is only half as great as the birth-rate in the rest of the population. A certain compensation is afforded by the fact that the Jews in consequence of their better economic condition are better able to care for their children than the Christians. In Prussia from 1888 to 1902 the death-rate of Christians under 15 years of age was 10.43 per 1,000, while that of the Jews was only 3.26. The death-rate of the Christian children was thus three times as great as that of the Jews.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, March 23, 1910.

The New Semester of the Vienna University

The summer term of the University of Vienna will begin a fortnight after Easter and will last three months; it ought to be called, therefore, "trimester." The program for this term announces 439 classes and courses on medical subjects, which will be delivered by 32 ordinary, 71 extraordinary professors and 153 privat-docents or clinical assistants. There were in this last winter term 1,568 ordinary students matriculated in the Vienna medical school, including 77 women, besides 486 foreign students. The increase against the winter term, 1908-'09 was 208 ordinary students; the number of medical students was 24.5 per cent. of all the students in the Vienna University, while 1908-'09 the number was 22 per cent. This is the sixth year of the constant increase in the number of medical students, in spite of the repeated warnings issued to students in colleges and gymnasia by medical corporations. The new semester will no doubt show another increase in numbers.

Appointment of Professor Wertheim to the Obstetric Clinic

The emperor has appointed Prof. Ernst Wertheim successor to Professor Rosthorn, and thus the new clinic for gynecology and obstetrics has again a director. Professor Wertheim is the second holder of the office; he follows only two years after the appointment of Rosthorn, who died after having been director only one year. Wertheim is only 46 years old and studied in Vienna. He was at first a physiologist, later he turned to the study of gynecology and became assistant to Chrobak and to Schauta, the leading gynecologists in this country. His attention was soon directed to the operative fight against uterine cancer, and his operation is well known and practiced by many surgeons, giving nearly 60 per cent. cures, if done in time. Many foreign surgeons are his pupils, especially in England and America. The appointment of this eminent surgeon and investigator is a most fortunate one.

The Latest Achievement of the Street Ambulance Corps

A few days ago, on the occasion of the funeral of a prominent political personage, more than half a million spectators had gathered in a relatively small space. The emergency had been anticipated by the ambulance corps (*Rettungsgesellschaft*), which, profiting by the experience of 1908, when a pageant witnessed by over 1,000,000 persons was held in June, erected 20 different first-aid stations, provided a staff of 60 physicians, together with 120 stretcher-bearers, and made provisions of drinking-water for the spectators and places for urinating. The latter is a very important item, as many cases of discomfort and slight illness were due in 1908 to the omissions of due care in this respect. Since the funeral procession took some two hours and people waited for three hours in advance, the corps had some work on its hands, although there was no serious injury, but merely minor accidents. It was no small matter to provide first aid for such a multitude; and at the same time a first-aid service for the remainder of tke population who were at their work, had to be in working order as on ordinary week-days. The daily average emergency calls of the ambulance corps were 85 in 1909, which shows how very much such an institution is an integral part of daily life of a large city, the more so, as it is a strictly private and charitable institution, which gives help free of charge, and which the local authorities refuse to acknowledge or to aid even by a smallest grant. On the contrary, some difficulties arising from the private position of the institution have been set right only after a storm of indignation from the population burst over the head of the red-tape magistrates.

Pharmacology

TOXICITY OF SOAMIN

The Danger Attending the Use of Some of the Organic Arsenic Salts

A correspondent in the *British Medical Journal* (March 5, 1910, p. 599) calls attention to the dangers of the arylarsonates, "orsudan" and "soamin." The latter is probably better known to American readers under the earlier name "atoxyl," atoxyl and soamin differing only in the number of molecules of water of crystallization. The correspondent states that the success which attended the use of these preparations in a series of 12 cases of syphilis induced him to continue it until an untoward occurrence compelled him to abandon it and to regret that he had ever advocated it. The untoward occurrence was blindness from double optic atrophy after ten injections of orsudan. He says further:

> "A second case has recently come under my notice in which a syphilitic patient also became blind after a course of about fifteen injections of 5 grains of soamin (Burroughs, Wellcome and Co.). A third case is that of an elderly patient, with marked arterial degeneration, who was put on a course of injection of soamin (Burroughs, Wellcome and Co.) for sciatica, but who after the introduction of about 60 grains also met with a similar fate. I am also cognizant of a fourth case, in which a patient suffering from lymphadenoma was treated with soamin (Burroughs, Wellcome and Co.), and became totally blind.
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> "It is inexpedient to enter more fully into the history of these cases, and I should not have written this communication had not I recently received from Messrs. Burroughs, Wellcome and Co. a pamphlet commending their preparations, soamin and orsudan, and reproducing among others the cases I originally described. In this pamphlet a casual mention is made of the fact that signs of intolerance had been met with after the use of soamin, such as 'visual disturbances, nausea, vomiting, gastric pains, dermatitis, nervousness, and insomnia,' and that 'the appearance of any of the above symptoms should be a signal for withholding the drug.' This is the only warning note in this pamphlet, though the manufacturers, through one of their representatives, had been informed by me of one case of total and irremediable blindness which had occurred after the use of orsudan, and knew that I had abandoned the treatment on that account.
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> "Further, in the *British Medical Journal*, Jan. 22, 1910, Drs. Lundie and Blaikie describe a case of total blindness following on a course of soamin and the possibility of causing optic atrophy by the use of that substance is alluded to. In the *Lancet*, ii, 1909, p. 1196. Dr. Bagshawe writes:
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> "'The arsanilates, and especially atoxyl, are not without their dangers; there are many recorded cases of blindness following the use of atoxyl . . . It seems that loss of vision is less frequent, if it occurs at all, after the use of soamin, which has of course a chemical formula identical with atoxyl.'
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> "There was, therefore, in the medical journals some indication that these drugs were not quite so innocent as they had been depicted. In the strict sense of the word, I suppose that total and incurable blindness may be termed a 'visual disturbance,' and my only object in writing is to point out to your readers the possible gravity of that 'visual disturbance' and to put them on their guard against such a disastrous occurrence."

The history of the commercial exploitation of "atoxyl" and "soamin" cannot be viewed by the physician with any satisfaction; yet it is unfortunately being repeated almost daily. A writer[1] in THE JOURNAL, Aug. 14, 1909, p. 497, selected this history as an example of the unsatisfactory conditions prevailing in the introduction of new drugs. To quote from this article:

> "That physicians have been content and have received but half-truths concerning important matters is too well known to need much discussion. One illustration of recent date may, however, be given. Reference has already been made to a class of organic arsenic compounds which are attracting much attention. As they seem destined to attract still more interest in the future, and as many new compounds of the same class are being investigated, it was especially desirable that the first information given

1. Hunt, Reid: "What the Individual Physician Can Do to Improve the Materia Medica."

concerning them should be correct and complete. Yet the very first one, under the name atoxyl, was brought to the attention of the physician with an incorrect statement even as to its composition. Professor Puckner, secretary of the Council on Pharmacy and Chemistry, seems to have been the first to discover the discrepancies between the manufacturer's statement and the truth. His results were soon confirmed by Ehrlich."

"New names for old drugs are often introduced in a manner to lead the physician to suppose that a new drug is being introduced. For example, I recently received a circular on 'soamin' from a leading English firm. In this it is stated that 'the arylarsonate, "soamin," was first introduced at the end of 1907,' and there is nothing in the circular to indicate that the same substance had been introduced by another firm several years previously under the name 'atoxyl,' or that the compound itself had been made in 1863 by Béchamp. A little further on in this circular I read: 'The toxic symptoms noticed by continental physicians when using other arylarsonates have not been observed with soamin.' As a matter of fact, most of the toxic symptoms noticed by continental writers were due to the same substance but under a different name."

There are certain points of resemblance between this history and that of the blindness from wood alcohol which shocked the public a few years ago. Certain dealers in wood alcohol represented that their product was harmless on account of its purity and a number of manufacturers were persuaded to use it, with most disastrous consequences not only to many innocent parties who lost their lives or sight but to themselves. The medical profession is now in somewhat the position of these manufacturers: dealers in all sorts of new drugs are representing that their purified products are harmless and the consequences are too often similar to those described above.

The physician is learning (reluctantly and regretfully, for he likes to feel that the manufacturers who express so much solicitude for his success in practice are dealing with him perfectly frankly) that the only safe way is to be profoundly skeptical of the statements of those who have something to sell; unfortunately this skepticism is necessary in regard to the products of the "great manufacturing houses" and some of the German professors as well as in regard to many of the humbler proprietaries.

It is probably a utopian dream but we still hope that a time will come when the contributors to the materia medica will come from well endowed medical schools and hospitals.

Micajah's Medicated Uterine Wafers

To the Editor:—We have read with interest the report of your committee on pharmacology [Contribution from the Chemical Laboratory.—ED.] recently published in THE JOURNAL, on the subject of Micajah's Medicated Uterine Wafers, and your comments thereon.

We are of the opinion that, in your laudable efforts to reform the practice of pharmacology, it is not your desire or intention to act other than justly and fairly, and therefore, with this belief, we submit the following statements for your consideration, with the hope that you will see fit to publish them.

1. We do not seek by word or deed the patronage of the laity, and what few sales are made to the public are not of our contriving, nor should we be held responsible for them, any more than is the manufacturer of quinin to be blamed for the universal use of that drug.

2. Our literature should not be considered extravagant, for it is for the most part made up of clinical reports received from physicians and based on the unsolicited testimonials in our possession from hundreds of practitioners, many of whom have used Micajah's Wafers in practice from five to twenty years and they are therefore as well grounded as are the clinical reports concerning any preparation.

3. In the past year we have endeavored to place our preparation on a higher ethical basis by stating in our advertisements what our wafers contain, and by eliminating whatever seems to us open to criticism.

4. That the ingredients of the preparation are "simple" is no reason for considering them valueless. H. A. Kelly, in his work on medical gynecology, page 266, recommends these ingredients in a variety of conditions. Bandler also made important recommendations bearing on this subject in his "Medical Gynecology," 1909 edition, page 472. We feel we have the right to recommend this preparation for these and similar conditions, especially when our statements are backed up by the clinical experience of numerous general practitioners.

5. That the owner of Micajah's Wafers holds stock in a corporate firm which manufactures proprietary medicines and toilet articles, advertised to the laity, should not militate for or against our right to market a meritorious preparation on strictly ethical lines to the medical profession, inasmuch as many of the largest drug houses cater to both the doctor and the proprietary interests, and several are actively engaged in exploiting so-called nostrums.

6. We enclose a recent advertisement which has been accepted after investigation of our methods by careful medical journals, and we now believe we are conducting our business in entire conformity with the best interests of the medical profession and we feel certain of the true merits of our article.

MICAJAH & COMPANY, Warren, Pa.

[COMMENT: This letter brings out still more strongly the points raised in the article which appeared in THE JOURNAL, March 26, 1910. Being unable to analyze motives we must perforce, accept Micajah & Co.'s statement that they "do not seek by word or deed the patronage of the laity." In the comments on the laboratory's report it was very explicitly stated that this nostrum was advertised only in medical journals and not directly to the public. Inasmuch, however, as the container in which this product comes has printed on it the various diseases in which the "wafers" are indicated, as, moreover, within the container there is a leaflet which describes in detail the use of the preparation in a list of pathologic states varying from "enlargement of the womb" to "gonorrhea in the male," and, finally, as the name "uterine wafers" would seem in itself to be a plain bid to the public, we still maintain that "one might imagine that it was put up absolutely for the layman."

The proposition that advertising matter should not be considered extravagant because it is largely "made up of clinical reports received from physicians" is an argument that is as old as the nostrum business itself—and as fallacious as it is old. Unfortunately, as our files show, the most extravagant statements made for proprietary products frequently emanate from men who legally are entitled to write M.D. after their name. Because a Buffalo physician details the marvelous results from the use of Micajah's Medicated Uterine Wafers in forty-three cases comprising no fewer than thirty-six pathologic conditions from "otitis media" to "injured toe," and from "bunion" to "ophthalmia neonatorum," does not exempt such "literature" from the charge of being not merely extravagant, but ridiculously so.

As Micajah & Co. say, because the ingredients of their preparation are simple is no reason for considering them valueless. On the contrary, if the "wafers" were truthfully exploited for what they are and what they will do, their very simplicity would be a virtue. But such has not been done. And therein lies the viciousness of nostrums. Simple mixtures of well-known drugs are foisted on the medical profession with no hint as to their composition and with claims made that are not only false, but would immediately be recognized as absurd, if their actual composition were known.

That a mixture of borax and alum may be of value in some of the simple ailments of the female genital tract can easily be granted. That relief might follow the use of suppositories made of these ingredients—especially when supplemented by an increased attention to simple cleanliness—can also be admitted. To say, however, that such medicaments will quickly and permanently cure gonorrhea, urethritis, endometritis, etc., is foolish, false and vicious.]

Additional List of Pharmacopeial Delegates

Dr. Murray Galt Motter, secretary, Washington, D. C., sends the following supplementary list of delegates to the Pharmacopeial Convention of 1910. Previous lists appeared in THE JOURNAL, February 26, page 719, and March 12, page 890. He states that these names are offered for publication "without prejudice," it being understood that such publication does not of necessity mean that these delegates will be received and seated by the convention, as their credentials

have not as yet been passed on by the Committee on Credentials and Arrangements.

Attention is invited to a ruling of the Committee on Credentials and Arrangements, that it can "not recognize the right of any one individual to represent more than one organization or institution."

COLLEGE OF PHYSICIANS AND SURGEONS, SAN FRANCISCO.—John H. Flint, P. A. Dubois, J. E. Barbat.

UNIVERSITY OF CALIFORNIA, CALIFORNIA COLLEGE OF PHARMACY, SAN FRANCISCO.—Franklin Theodore Green, Albert Schneider.

CONNECTICUT STATE MEDICAL SOCIETY.—Charles C. Beach, Samuel M. Garlick, Charles J. Foote; alternates, Thomas F. Rockwell, John E. Loveland, Elias Pratt.

INDIANA UNIVERSITY SCHOOL OF MEDICINE, INDIANAPOLIS.—C. Richard Schaefer, John N. Hurty, A. D. Thorburn; alternates, Samuel E. Earp, Charles R. Sowder, A. C. Kimberlin.

INDIANA PHARMACEUTICAL ASSOCIATION.—Fred W. Meissner, Leo Eliel, J. R. Francis; alternates, William H. Rudder, O. L. Hackett, W. O. Gross.

UNIVERSITY OF NOTRE DAME, SCHOOL OF PHARMACY.—James A. Burns; alternates, William Maloney, Louis Kelley.

BENNETT MEDICAL COLLEGE, CHICAGO.—Walter Franz von Zellinski, George Louis Secord, Richard Jay Lambert; alternate, W. F. Waugh.

KANSAS MEDICAL COLLEGE, TOPEKA.—Elvenor A. Ernest.

KENTUCKY STATE MEDICAL ASSOCIATION.—J. W. McCormack, Virgil E. Simpson, A. T. McCormack; alternates, William Bailey, H. K. Adamson, Archibald Dixon.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.—John D. Blake, Elmer B. Freeman, C. Urban Smith.

COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.—John Ruhräh, S. J. Fort, Harvey G. Beck.

UNIVERSITY OF MARYLAND, SCHOOL OF MEDICINE, BALTIMORE.—Thomas E. Satterthwaite, John C. Hemmeter, Joseph E. Gichner; alternates, Charles W. Mitchell, Arthur M. Shipley, J. M. Craighill.

UNIVERSITY OF MARYLAND, DEPARTMENT OF PHARMACY.—David M. R. Culbreth, Henry P. Hynson, Charles Caspari, Jr.; alternates, Daniel Base, H. A. Brown Dunning, Evander Frank Kelly.

UNIVERSITY OF MINNESOTA, COLLEGE OF MEDICINE AND SURGERY.—E. D. Brown, W. A. Jones, Burnside Foster; alternates, George D. Head, J. P. Sedgwick, Haldor Sneve.

ST. LOUIS UNIVERSITY, SCHOOL OF MEDICINE.—G. C. Crandall, Jacob Friedman, E. Marsh Williams.

MISSOURI PHARMACEUTICAL ASSOCIATION.—William Mittelbach, Charles Gietner, H. M. Pettit; alternates, Francis Hemm, D. V. Whitney, Charles L. Wright.

KANSAS CITY (MO.) COLLEGE OF PHARMACY AND NATURAL SCIENCES.—Charles H. Stocking, James H. Southwell, Ferd L. Crampton.

KANSAS CITY (MO.) COLLEGE OF PHARMACY.—J. M. Good, Charles E. Caspari, O. F. Claus; alternates, Francis Heuun, Solomon Boehm, William K. Ilhardt.

UNIVERSITY OF NEBRASKA, COLLEGE OF MEDICINE, LINCOLN.—Rufus Ashley Lyman.

COLUMBIA COLLEGE, COLLEGE OF PHYSICIANS AND SURGEONS, OF NEW YORK.—S. W. Lambert, C. A. Herter, W. A. Bastedo; alternates, W. J. Gies, W. R. Williams, C. C. Lieb.

NEW YORK HOMEOPATHIC MEDICAL COLLEGE AND FLOWER HOSPITAL.—Royal S. Copeland, Rudolph F. Rabe, Edward W. Runyon; alternates, Stuart Close, J. Wilford Allen, Spencer Carlton.

SYRACUSE UNIVERSITY, COLLEGE OF MEDICINE.—William Dewey Alsever, Frank P. Knowlton, H. L. Taylor.

NEW HAMPSHIRE MEDICAL SOCIETY.—Edward H. Currier, Charles D. Howard, C. H. Bowker.

NORTH CAROLINA PHARMACEUTICAL ASSOCIATION.—E. V. Zoeller, P. W. Hancock, W. H. Weaver; alternates, W. W. Horne, E. V. Howell, C. A. Rayson.

WESTERN RESERVE UNIVERSITY, MEDICAL DEPARTMENT, CLEVELAND.—John P. Sawyer, J. W. Kerr, Richard Dexter.

CINCINNATI COLLEGE OF PHARMACY.—Charles T. P. Fennel, John C. Otis.

OKLAHOMA PHARMACEUTICAL ASSOCIATION.—George E. McLaurine, F. M. Weaver, J. C. Johnson; alternates, Harry Mitchell, F. R. Giteau, H. D. Kinseley.

UNIVERSITY OF PENNSYLVANIA, SCHOOL OF MEDICINE.—John Marshall, Alfred Stengel, David L. Edsall; alternates, E. T. Reichert, Joseph Sailer, George E. de Schweinitz.

TEMPLE UNIVERSITY, PHARMACY DEPARTMENT, PHILADELPHIA.—H. Evert Kendig, Henry Fisher, John R. Minehart; alternates, H. H. Boom, James C. Attix.

RHODE ISLAND PHARMACEUTICAL ASSOCIATION.—Howard A. Pearce, A. W. Fenner, Jr., Frank A. Jackson; alternates, James E. Brennan, P. J. Gaskin, E. P. Anthony.

VANDERBILT UNIVERSITY, DEPARTMENT OF PHARMACY, NASHVILLE.—E. A. Ruddiman, J. T. McGill, William R. White; alternates, Max Bloomstein, Hardee D. Nell, E. F. Trolinger.

UNIVERSITY OF TENNESSEE, SCHOOL OF PHARMACY.—Charles O. Hill.

UNIVERSITY OF WISCONSIN, SCHOOL OF PHARMACY.—Edward Kremers, Arthur S. Loevenhart; alternates, Richard Fisher, Rollin H. Denniston.

RAILROAD RATES

Inquiry of the Trunk Line Association has developed the fact that a fare and three-fifth concession, on the certificate plan, offers no material advantages over the less troublesome mileage rates and excursion rates, which can always be obtained for trips to Washington.

Correspondence

Gutta-Percha Tissue in Surgery

To the Editor:—The article in THE JOURNAL, March 19, 1910, by Dr. Jacob Frank on "Gutta-Percha Tissue in Surgery," is very useful and suggestive. I venture to add a few points regarding this substance which seem to have escaped his notice.

Dr. Frank makes the epigrammatic distinction between rubber and gutta-percha that "though one is elastic the other is plastic." Yet I cannot find in his article any evidence that he has utilized the plastic qualities of this substance. These are developed by heat. Under warmth, layers and folds of gutta-percha tissue stick together and fuse into a nearly homogeneous mass—which on cooling does not, like rubber, remain sticky, but resumes its normal state of glossy stiffness.

For many years I have been availing myself of this quality of gutta-percha tissue. In its simpler forms it may be used to cause folds of tissue to adhere thus avoiding pins or sutures. It is never needful to sew gutta-percha tissue to itself or indeed to anything else, as is done in Dr. Frank's illustrations. Hot water applied by a swab of cotton—drawn along the line of union causes the surfaces instantly to adhere, and cold water will harden and set the junction immutably. This is useful in making cigarette drains, covering splints for discharging compound fractures, enclosing dry or moist dressings, etc.

The plastic qualities of gutta-percha find their neatest expression in use about the hand. Take, for example, a smashed infected finger from a factory accident—a dry dressing will result in spreading infection—clean it up the best you may—it will need a moist dressing. For years, I have applied this as follows: Envelope in gauze bandage wet in saturated boric acid solution. Apply two or threee thicknesses of gutta-percha over this; warm over a flame, but not too near it, whereon the gutta-percha will coalesce. Wind on another layer or two, warm as before. Smooth the dressing till it becomes a homogeneous mass, and cool under cold water faucet. The rest of the hand can be washed at any time without prejudice to this dressing.

The thicker the dressing is made the more of a splint it becomes. Compound fractures of fingers can be well treated by moist gauze covered by gutta-percha tissue thick enough to immobilize the fingers. Similarly, finger cots of any desired size and thickness can be improvised, and find a field of usefulness in treating onychia, paronychia and any infection of fingers or nails.

WILLIAM S. CHEESEMAN, M.D., Auburn, N. Y.

No Yellow Fever in Philippines

To the Editor:—Dr. A. P. Goff, chief, San Lazaro Hospitals Division, of the Bureau of Health for the Philippine Islands, calls attention to the health report in THE JOURNAL, Jan. 8, 1910, page 148. He says:

"In this report Manila is credited with 11 cases of yellow fever from Oct. 30 to Nov. 6, 1909, and the provinces with 160 cases of the same disease. This is, of course, simply a mistake in printing [caused by a line of type being transposed.—ED.]—the cases mentioned being cholera cases that occurred during period mentioned, but the islands have enough to contend against without any one getting it into his head that we have yellow fever here also."

I respectfully ask that the necessary corrections be made.

VICTOR G. HEISER, Director of Health.

Fracture of Thigh in the Newborn

To the Editor:—In THE JOURNAL, Jan. 8, 1910, p. 169, is a reference to a contribution on the treatment of fracture of the thigh in the new-born, by Dr. G. Zancarini, published in the *Münchener medizinische Wochenschrift*, Nov. 16, 1909, p. 2353.

In 1887 I practiced this method in the case of a fracture at the lesser trochanter in a child just born. There had been a

breech presentation, and the accoucheur had fractured the thigh in making traction with the finger inserted in the flexure of the groin. The case was treated by flexion of the thigh on the abdomen, placing it in the identical position it had occupied *in utero*, enveloping the thigh and abdomen of the child in a complete investment of plaster of Paris. To this I arranged a valise handle so that the infant was carried, for the three weeks in which it remained under treatment, as one would carry a dress suit case, by the handle.

The method was entirely original with me, and was made public in the Transactions of the New York Surgical Society, and in the second edition (1890) of my work on surgery.

JOHN A. WYETH, New York.

Sugar and Rice as Transmitters of Cholera

To the Editor:—The letter in THE JOURNAL, March 26, regarding "The Late Dr. James Sykes and a Cholera Epidemic," was read with great interest by me. The trouble no doubt lay in the raw sugar, possibly brought from the Philippines or Java. I have known of cases where two hundred coolies died of cholera on the docks in Bangkok in one day, and you can easily see how bags of rice and of sugar could become contaminated by the discharges of those ill with cholera.

CHARLES S. BRADDOCK, JR., New York.
Late Chief Medical Inspector Royal Siamese Government.

President Welch, General Sternberg and the Yellow-Fever Commission

To the Editor:—In the all-too-generous appreciation of my work in the editorial in THE JOURNAL, April 9, it is intimated that my advice may have led to the creation of the Yellow-Fever Commission. As all that relates to the history and work of this commission is highly important, permit me to say that the credit for the creation of this commission belongs solely to General Sternberg, who had previously so completely exhausted the purely bacteriologic study of yellow fever that it was possible for the commission to follow the new direction which proved so fruitful in results.

WILLIAM H. WELCH, Baltimore.

The Importance of a Department of Health

To the Editor:—The present bright outlook for the early establishing of a national Department of Health should awaken the profession to active effort on behalf of Senator Owen's Bill 6049, and for the securing of efficient seconding of the movement in the House. It seems to me there should be no thought or talk of a subordinate bureau, for in no other work of the government is free and untrammeled action so essential.

In an article on "Medicine and the State," published in THE JOURNAL, Feb. 19, 1898, I urged the vital necessity of a government department, analogous to the National Health Service of Germany, the Directory of Public Hygiene of France, and the Government Health Board of England. The profession has been working for such a department for near a century; had it been established a dozen years ago what incalculable evil would have been averted in the one matter of the bubonic plague, as Senator Owen so forcibly points out![1]

Now that the public is being awakened let us bend every energy to securing a national sanitary organization with the needed power. The view you express that in case a department should seem to be out of our present reach we should work for a bureau as better than nothing seems to me to be at least questionable. To establish a bureau, besides causing harmful and troublesome jealousies, would be to put the department a long way in the future, and I believe Senator Owen is entirely correct in holding that a department with full powers "is absolutely essential in order to comply with the international (and interstate) sanitary obligations of the United States," and that "the health and the welfare of the world" demand its establishment.

C. H. PRESTON, Davenport, Iowa.

[COMMENT: The present prospects for a national Department of Health are in every way brighter than ever before. A large number of members of Congress, in both the Senate and the House, have expressed themselves favorably and some enthusiastically regarding the proposed legislation. The public, in every instance in which it has had an opportunity to express itself, is favorable. The public press with but few exceptions endorses the movement. What is now needed is to let Congress know in unmistakable terms that there is a widespread, intelligent and insistent popular demand for largely increased health activities in the form of a national department of health. It is especially advisable that every physician and every medical society take immediate steps to acquaint their senators and representatives with their views, and especially that every effort be made to secure as general an expression of public opinion as possible.—ED.]

1. THE JOURNAL A. M. A., April 2, 1910, p. 1159.

Book Notices

MODERN METHODS OF STREET-CLEANING. By George A. Soper, Ph.D., Member American Society of Civil Engineers. Cloth. Price, $3. Pp. 201, with illustrations. New York: The Engineering News Publishing Company, 1909.

In the increasing attention given to public health matters the sanitation of cities of course occupies a large and important position. The disposal of waste, the cleaning of streets and the prevention of dust are matters intimately related. Dust is an agency in the transmission of disease as important as water and milk, or even more so, and causes far more universal annoyance and discomfort. This book deals with this phase of city sanitation in a theoretical as well as practical way, discussing such subjects as city dust, streets as receptacles for refuse, the aim of sanitation, sanitary ordinances and the police, necessity of cooperation in preventive work, physical properties of street dirt, chemical and microbic ingredients of street dirt, general methods of cleaning, disposal of refuse, etc., and gives the history and development of these sanitary measures in New York, perhaps the best example in this country, and in European cities, such as London, Paris, Berlin, Hamburg and Cologne. Soper finds these measures more efficiently and more cheaply carried out in Europe than in this country. The work here is done in a more or less haphazard and unsystematic way, while over there a deliberate intention exists to develop and control the growth of cities along lines which make for order, convenience, comfort, safety, health and beauty, and in no direction has greater progress been made than in sanitation. The book is an interesting presentation of this phase of city sanitation, and although Soper is unable, on account of the nature of the work and the information available, to formulate principles of general application, a wide circulation of the book among sanitarians and health authorities would do much to help along the propaganda for better hygiene and sanitation in our cities.

APPENDICITIS and Other Diseases of the Vermiform Appendix. By Howard A. Kelly, M.D. Cloth. Pp. 502, with illustrations. Price, $6. Philadelphia: J. B. Lippincott Co.

The volume before us is a condensed edition of the work on "The Appendix Vermiformis and its Diseases," by Drs. Howard A. Kelly and Elizabeth Hurdon, published in 1905. The preface of the present edition calls attention to the purpose of the authors of the earlier work to make it "a great storehouse of well-digested facts relative to the protean diseases of this little organ." In this they were successful. The present book is the result of an attempt on the part of its accomplished author to meet better "the daily needs of the great army of general surgeons throughout the country" by the preparation of "a compact résumé dwelling with especial care on the practical side of the subject." Although the present edition is smaller by over 300 pages than its predecessor, it remains a

book of large bulk. As a volume for reference on the subject of the diseases of the appendix it is encyclopedic in character. The historical part of the work has been prepared with great thoroughness; hardly anything, having the slightest relation to the diseased appendix, has failed to receive consideration. The sections on pathology, clinical history and the differential diagnosis of appendicitis are complete. Our author's teaching on the indications for operation and in favor of early operation is surgically sound and in accordance with the best practice of to-day. Neoplasms and specific infections of the appendix are fully discussed, as is also the complication of pregnancy and gynecologic conditions by appendicitis. The final chapter of the book on the medicolegal aspects of appendicitis, disposes of the subject in a fair and judicial manner. The book is well written throughout, profusely and beautifully illustrated, and of the highest value for reference and study.

ROTTER'S TYPISCHE OPERATIONEN. Kompendium der Chirurgischen Operationslehre. Mit besonderer Berücksichtigung der topographischen Anatomie, sowie der Bedürfnisse des praktischen u. Feldarztes. 8 Auflage. Pp. 362, with illustrations. Herausgegeben von Dr. Alfred Schönwerth, K. Bayr. Oberstabsarzt und Privatdozent für Chirurgie. Cloth. Munich: J. F. Lehmann's Verlag, 1909.

This is a small volume that can be put in an ordinary coat-pocket. The surgical anatomy involved in an operation is briefly referred to and then the operation clearly but briefly described. Very little, if anything, is said about the indications for or results of operations and usually but one method of doing an operation is described. The book therefore is not one for the advanced surgeon but for the student beginning in operative work.

THE QUEST. By Thomas A. Stoddard. Cloth. Pp. 167, with illustrations. Price, $1.50. New York: Cochrane Publishing Co., 1909.

This is the story of a beloved country doctor who meets with an injury, is accused of a terrible crime and disappears from the community in which he lived. The death-bed confession of the real criminal, and a long and successful quest to find a mysterious "city by a lake" in South America, involving many perilous adventures, result in clearing up the mystery and restoring the doctor, who was innocent of all blame, to his wife and family. The book contains the views of the author on ethics and religion. It is a story about a physician, written by a physician, and should be interesting to physicians.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular; Little Rock, May 10-11. Sec., Dr. F. T. Murphy, Brinkley.

FLORIDA: Eclectic; Tampa, May 2. Sec., Dr. Hiram J. Hampton, 1805 Florida Avenue.

GEORGIA: Regular; Augusta, May 2-3, Atlanta, May 4-7. Sec., Dr. I. H. Goss, 297 Hancock Avenue, Athens.

LOUISIANA: Regular; New Orleans, May 19-20. Sec., Dr. Felix A. Larue, 211 Camp Street. Homeopathic: New Orleans, May 2. Sec., Dr. Gayle Aiken, 1102 St. Charles Avenue.

MASSACHUSETTS: State House, Boston, May 10-12. Sec., Dr. E. B. Harvey, Room 159, State House.

MISSISSIPPI: State Capitol, Jackson, May 10. Sec., Dr. S. H. McLean, Jackson.

NEBRASKA: State House, Lincoln, May 11-12. Sec., Dr. E. Arthur Carr.

NEVADA: Carson City, May 2. Sec., Dr. S. L. Lee.

NEW YORK: Albany, May 24-27. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

TENNESSEE: Memphis, Nashville and Knoxville, May 3-4. Sec., Dr. C. A. Abernathy, Pulaski.

College of Physicians and Surgeons Moves to Columbia University Campus

Recognizing the advantage of a closer contact of its medical school with the other departments of the university, Columbia University has taken advantage of recent donations by William K. Vanderbilt, George J. Gould, Frank A. Munsey and others to move its medical school from Fifty-ninth street to the university campus at Morningside Heights, where over three million dollars is to be expended for the new medical school.

For more than a century this college has been in the forefront in medical education in this country. It has furnished to the medical profession many famous practitioners and investigators; men of high ideals and of unselfish devotion to the public good. The entire medical profession as well as its thousands of alumni may well rejoice in the continued progress and rare good fortune of this century-old medical school.

The Public Service

Medical Department of the Army

Changes for the week ended April 9, 1910:

Walkup, Joseph O., 1st lieut., M. R. C., assignment to duty in the Philippines Division revoked.

Heterick, R. H., 1st lieut., M. R. C., left Fort Oglethorpe, Ga., with 11th Cavalry, for duty at Target Range, Catoosa Springs, Ga.

Northington, E. C., 1st lieut., M. R. C., left Fort McPherson, Ga., with 2nd Battalion, 17th Infantry, en route to U. S. Rifle Range, Waco, Tex., for duty.

DeLaney, M. A., capt., will proceed to Philadelphia, on official business pertaining to the Medical Department.

Hoff, John Van R., col., will proceed to certain posts in the Department of the East, for the purpose of making an inspection of the medical department and of the sanitary condition at these posts.

Stark, Alexander N., major, relieved from duty at Vancouver Barracks, Wash., and ordered to Fort Adams, R. I., for duty.

Wheate, J. M., 1st lieut., M. R. C., granted leave of absence for 3 months and 15 days.

Reno, William W., major, granted leave of absence for 1 month.

Howell, Walter O., 1st lieut., M. R. C., will proceed from Presidio of San Francisco, to Fort Miley, Cal., for temporary duty.

Freeman, Charles E., capt., will report to Capt. John W. Moore, 1st Cavalry, Presidio of San Francisco, for duty with and to accompany the troops to be stationed in the Yosemite National Park, Cal.

Scott, Minot E., dental surgeon, reported for temporary duty at Fort Stevens, Ore.

Rand, I. W., major, left Fort Hancock, N. J., for 7 days' leave of absence.

DeLoffre, Samuel M., capt., leave of absence extended 1 month and 9 days.

Crissinger, Jay W., capt., granted leave of absence for 3 months.

O'Connor, R. P., major, granted leave of absence for 2 months.

Clarke, Howard 1st lieut., M. R. C., recently appointed, will proceed to Fort Thomas, Ky., for duty.

Dawe, C. W., 1st lieut., M. R. C., relieved from Fort Thomas, Ky., and ordered to Plattsburg Barracks, N. Y., for duty.

Davis, Oscar F., 1st lieut., M. R. C., now on leave of absence, will proceed on May 1st to Fort Mackenzie, Wyo., for duty at that station.

Hollingsworth, R. M., dental surgeon, on arrival at San Francisco, will proceed to his home and on arrival report by telegraph to the Surgeon General of the Army, for annulment of contract.

Woodson, Robert S., major, retired from active service on account of disability incident thereto. He will proceed to his home.

Bratton, Thomas R., major, granted 3 months' leave of absence about July 1, 1910. Relieved from duty at Fort Des Moines, Iowa, at expiration of leave of absence, and ordered to proceed to Manila, P. I., for duty, about Oct. 5, 1910.

Medical Corps of the Navy

Changes for the week ended April 2, 1910:

Lovering, P. H., medical director, commissioned Medical Director from Feb. 5, 1910.

Butts, H., P. A. surgeon, commissioned Passed Assistant Surgeon from June 1, 1910.

Kite, I. W., surgeon, placed on the retired list from March 23, 1910. Detached from Navy Yard, Norfolk, Va., and ordered home.

Blackwood, N. J., surgeon, detached from the Navy Yard, Washington, D. C., and ordered to the Naval Hospital, New York.

Hibbett, C. T., medical inspector, detached from the Naval Recruiting Station, Baltimore, and ordered to the Navy Yard, Norfolk, Va.

Wieber, F. W. F., medical inspector, ordered to the Naval Recruiting Station, Baltimore.

Smith, G. T., surgeon, detached from the Naval Hospital, New York, and ordered to the Naval Station, Hawaii.

Johnson, T. J., acting asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered home; appointment revoked as Acting Assistant-Surgeon April 2, 1910.

Munson, F. M., P. A. surgeon, detached from the *Chattanooga* and ordered to the *Monterey*.

Noble, D. H., asst.-surgeon, detached from the *Monterey* and ordered to the *Charleston*.

Kelley, H. L., asst.-surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to the *Cleveland*.

Public Health and Marine-Hospital Service

Changes for the week ended April 6, 1910:

Wertenbaker, C. P., surgeon, detailed to represent the Service at the meeting of Conference Charities, to be held in Charlottesville, Va., April 5, 1910.

Young, G. B., surgeon, directed to attend the meeting of the Lake Michigan Water Commission, to be held in Milwaukee, Wis., April 1, 1910.

Blue, Rupert, surgeon, directed to proceed to Valparaiso, Chile, and Callao, Peru, on special temporary duty, and to represent the Service at the International Congress on Medicine and Hygiene, to be held in Buenos Ayres, May 25, 1910.

Oakley, J. H., surgeon, leave of absence for 2 months from March 1, 1910, amended to read 2 months from March 25, 1910.

Holt, J. M., P. A. surgeon, granted 6 days' leave of absence from April 26, 1910.

Vogel, C. W., P. A. surgeon, relieved as recorder of board of medical officers convened to meet April 4, 1910.

Collins, G. L., P. A. surgeon, detailed as recorder of board of medical officers convened to meet April 4, 1910.

Herring, R. A., asst.-surgeon, granted 2 days' leave of absence from March 22, 1910, under paragraph 191, Service Regulations.

Kolb, L., asst.-surgeon, granted 1 day's leave of absence in March, 1910, under paragraph 191, Service Regulations.

Stiles, C. W., Chief Division of Zoology, Hygienic Laboratory, directed to proceed to Wilmington, N. C., on special temporary duty.

Bailey, C. A., acting asst.-surgeon, directed to proceed from St. John, N. B., to Quebec, Canada, for duty.

Blanchard, J. F., acting asst.-surgeon, granted 2 days' leave of absence from March 30, 1910.

Deerhake, Wm. A., acting asst.-surgeon, granted 2 days' leave of absence in March, 1910, under paragraph 210, Service Regulations.

Thornton, M. J., acting asst.-surgeon, granted 2 days' leave of absence, March 7 and 16, 1910, under paragraph 210, Service Regulations.

Brinckerhoff, W. R., asst. director, Leprosy Investigation Station, resignation accepted, effective April 15, 1910.

Marriages

S. CURTIS JOHNSON, M.D., to Miss Carolyn A. Shaw, both of Chicago, April 12.

CHARLES MOORE ROBERTSON, M.D., to Mrs. Jessie B. Arundell, both of Chicago, April 7.

EDWARD WILLIAM QUICK, M.D., to Miss Georgia Hall, both of Appleton, Wis., March 30.

A. ELMER AUSTIN, M.D., to Miss Anne Tyrrell Christy, both of New York City, March 29.

ARTHUR BARNETT EUSTACE, M.D., to Miss Florence Frances Mix, both of Chicago, Dec. 26, 1909.

EDWIN L. THIRLBY, M.D., Traverse City, Mich., to Miss Elsie Thirlby, of London, Eng., March 28.

JOSIAH S. TYLER, M.D., Tagle Bend, Minn., to Miss Clara May Monroe, of Hudson, Wis., March 26.

CHARLES RICHARD BATES, M.D., to Miss Marian Gerard Alexander, both of Camp Point, Ill., April 4.

ROBERT WELLESLEY BAILEY, M.D., to Miss Pearl Waller, both of Germantown, Philadelphia, March 29.

WILLIAM PATRICK MORSE, M.D., Farmersville, Ky., to Miss Lena Mae Smith, of Princeton, Ky., March 30.

JOSEPH EMILE HEIDINGSFELDER, M.D., Lobdell, La., to Miss Armentine Allain, of West Baton Rouge, La., March 29.

WYLLYS S. WALKLEY, M.D., U. S. P. H. and M.-H. Service, Grand Haven, Mich., to Miss Louise Lillie of Lowell, Mich, March 30.

Deaths

Gordon King, M.D. Tulane University, New Orleans, 1897; a member of the American Medical Association, and French Laryngological Society; fellow of the American Laryngological Association; surgeon-in-chief of the ear, nose and throat department of the New Orleans Eye, Ear, Nose and Throat Hospital; professor of diseases of the ear, nose and throat in the New Orleans Polyclinic; one of the most prominent young specialists of the South; was thrown from his horse while playing polo, March 26, and suffered a fracture of the base of the skull by a kick from his pony, and died a few hours later, aged 34. At a special meeting of the executive committee of the hospital, memorial resolutions regarding the death of Dr. King were unanimously adopted.

John Pierrepont Codington Foster, M.D. Yale University, New Haven, 1875; a member of the American Medical Association and American Climatological Association, and director of the National Association for the Study and Prevention of Tuberculosis; formerly surgeon in the U. S. P. H. and M.-H. Service; a member of the consulting staff of New Haven Hospital; executive chairman of the Gaylord Farm Sanatorium, Wallingford, Conn.; chairman of the State Tuberculosis Commission; a specialist on tuberculosis of international reputation; died at his home in New Haven, April 1, from pneumonia, aged 63.

William Jacob Points, M.D. Washington University, Baltimore, 1852; a practitioner of Mount Crawford, Va., until 1865, when he adopted the profession of law; clerk of the circuit court of Albemarle county, from 1869 to 1870; clerk of the federal court, Staunton, Va., till 1875; United States commissioner from 1871-1883; and for several years thereafter commissioner in chancery of the circuit court of Rockingham county; for several terms a magistrate for the central district of Harrisonburg; died at his home in that city, March 25, from cerebral hemorrhage, aged 78.

John Barr Learned, M.D. College of Physicians and Surgeons, New York City, 1865; a member of the American Medical Association, Mississippi Valley Medical Association, American Public Health Association and British Medical Association, and formerly president of the Hampshire County (Mass.) Medical Society; died at his home in Florence, Mass., January 24, from nephritis, aged 71.

Robert H. Harvey, M.D. University of Nashville, 1868; a Confederate veteran; for several terms justice of the peace; at one time a representative in the Tennessee legislature; proprietor of the Lawrenceburg Mill Company; and president of the Lawrence Bank and Trust Company; died at his home in Lawrenceburg, March 28, from cancer of the face, aged 68.

Herbert Morton Eddy, M.D. Geneva (N. Y.) Medical College, 1868; College of Physicians and Surgeons, New York City, 1870; a member of the American Medical Association; physician to the Geneva (N. Y.) City Hospital; since 1893, a trustee of Hobart College; city physician of Geneva; died suddenly at his home, March 27, from cerebral hemorrhage, aged 64.

John H. Horn, M.D. University of Louisville, 1886; a member of the State Medical Association of Texas; visiting physician to All Saints' Hospital, Fort Worth; surgeon in charge of the Rescue Home; secretary of the board of trustees of Fort Worth University; died at his home in that city, April 1, from septicemia, due to an autopsy wound, aged 49.

Penn Walker Ransom, M.D. Northwestern University Medical School, Chicago, 1879; a member of the American Medical Association; superintendent of the Ransom Sanitarium, Rockford, Ill.; a specialist in nervous and mental diseases; was instantly killed by the overturning of his automobile, near Rockford, April 2, aged 52.

Henry Shaw, M.D. Harvard Medical School, Boston, 1854; a member of the Massachusetts Medical Society; a member of the legislature in 1861; surgeon in the Navy during the Civil War; for ten years clerk of state aid in the State House, Boston; died at his home in Beachmont, Revere, March 28, from pneumonia, aged 80.

William Russell, M.D. Cincinnati College of Medicine and Surgery, 1875; University of Michigan, Ann Arbor, 1877; for ten years a member of the medical staff of Battle Creek Sanitarium; physician in charge of the Russell Hospital, Minneapolis, Minn.; died at his home in that city, April 2, from general debility, aged 78.

Calvin May Fitch, M.D. University of Vermont, Burlington, 1849; New York University, New York City, 1852; for more than half a century a practitioner of Chicago; a life member of the Chicago Pathological Society; died at his country home in Twin Lakes, Wis., April 6, from nephritis, prostatitis and bronchitis, aged 81.

Charles F. H. Freiberg, M.D. Saginaw Valley Medical College, Saginaw, Mich, 1902; a member of the Michigan State Medical Society; formerly health officer of Bay City; and secretary of the board of health; died at the home of his father in Bay City, April 1, from heart disease, aged 29.

Edward Wooten, M.D. University of Maryland, 1861; surgeon of White's Cavalry, C. S. A., during the Civil War; for two terms a member of the Maryland House of Delegates; and from 1889-1893 state senator; died at his home in Poolesville, April 1, from pneumonia, aged 70.

Susie May Lewis, M.D. Bennett Medical College, Chicago, 1903; of Milwaukee; a member of the State Medical Society of Wisconsin; formerly a member of the American Medical Association; was killed in the wreck of a Rock Island train at Green Mountain, Iowa, March 21, aged 52.

Clarence Hillman Beetle, M.D. Cooper Medical College, San Francisco, 1908; a member of the American Medical Association; house physician of the Roosevelt Hospital, Berkeley, Cal.; died in that institution, March 26, a few hours after an operation for strangulated hernia, aged 29.

John Frank Shaffner, Jr., M.D. University of Pennsylvania, 1899; a member of the Medical Society of the State of North Carolina, and formerly a member of the American Medical Association; of Winston-Salem; died in Richmond, Va., March 22, from septicemia, aged 35.

William A. Tichenor, M.D. Washington University, St. Louis, 1879; of Chicago; formerly superintendent of the Missouri State Hospital for the Insane, No. 3, Fulton; was found dead in a hotel in Chicago, April 8, from heart disease and narcotic poisoning, aged 50.

Charles Wells Whitcomb, M.D. Philadelphia Medical College; surgeon of the Fifteenth Missouri Volunteer Infantry during the Civil War; died at his home in Myrtle Creek, Ore., February 17, from hypostatic pneumonia, following fracture of the femur, aged 77.

S. Joseph Collins, M.D. University of Louisville, 1861; (license, Texas, years of practice, 1907); a surgeon in the Confederate service throughout the Civil War; died at his home in Lovelady, Texas, March 21, from cancer of the stomach, aged 74.

Jesse J. Wright, M.D. Pennsylvania Medical College, Gettysburg, 1859; a member of the Medical and Chirurgical Faculty of Maryland; formerly president of the Cecil County Medical Society; died at his home in Warwick, March 26, from pneumonia, aged 73.

George W. Newman, M.D. Washington University, St. Louis, 1858; of Mount Vernon, Mo.; died in St. Thomas Hospital, Marshalltown, Iowa, March 28, as the result of injuries received in a train wreck in Green Mountain, Iowa, a week before, aged 76.

Thomas D. Spencer, M.D. New York Homeopathic Medical College, New York City, 1878; of Rochester, N. Y.; formerly president and a member of the staff of the Rochester Homeopathic Hospital; died in that institution, March 31, aged 53.

Samuel S. Miller, M.D. Jefferson Medical College, 1876; of Stoyestown; one of the oldest practitioners of Somerset county, Pa.; died in the Memorial Hospital, Pittsburg, March 28, after an operation for hemorrhage of the bladder, aged 70.

William W. Coleman, M.D. University of Louisville, 1883; a member of the Kentucky State Medical Association; and of the board of health of Mount Washington, Ky.; died at his home in that place, April 1, from pneumonia, aged 54.

Frederick C. Windecker, M.D. Denver and Gross College of Medicine, Denver, 1905; for a time a member of the staff of the Phipps Sanatorium, Denver; died at his home in Little Falls, N. Y., March 24, from tuberculosis, aged 25.

Cornelius A. Covert, M.D. Western Reserve University, Cleveland, 1869; for half a century a practitioner of Greensburg, Ind.; died at his home in that place, March 29, from dilatation of the heart, aged 79.

George Runk, M.D. American Medical Missionary College, Chicago, 1906; of Alma, Neb.; died on a train near Chariton, Iowa, March 17, while en route to his home, from miliary tuberculosis, aged 31.

Jefferson Kinney, M.D. Medical College of Virginia, Richmond, 1888; a specialist on diseases of the eye, ear and throat, Roanoke, Va.; died at his home in that city, March 27, from nephritis, aged 41.

Charles T. Wall, M.D. Marion-Sims College of Medicine, St. Louis, 1899; surgeon of the Wall Sanitarium, Washington, Ind.; died at his home in Washington, March 28, from pneumonia, aged 33.

David Thomas Long, M.D. Eclectic Medical Institute, Cincinnati, 1882; for several years superintendent of the Baptist Hospital, Topeka, Kan.; died at his home in that city, March 20, aged 63.

Fred A. Brennan, M.D. McGill University, Montreal, 1902; a member of the Vermont State Medical Society; died at his home in Georgia Center, Vt., March 26, from heart disease, aged 35.

George John Robinson, M.D. Jefferson Medical College, 1882; a member of the Medical Society of the State of North Carolina; died at his home in Smithfield, N. C., March 30, aged 64.

Charles Monroe Carter, M.D. Kentucky School of Medicine, Louisville, 1861; a veteran of the Civil War; died at his home in Kansas City, Mo., March 26, from pneumonia, aged 70.

Joseph Warren Odell, M.D. Harvard Medical School, Boston, 1855; a surgeon in the Federal service during the Civil War; died at his home in Greenland, N. H., March 24, aged 79.

Joshua Baker Conaway (years of practice, W. Va.); for forty years a practitioner of Bristol, W. Va.; died at his home in Clarksburg, March 17, from nephritis, aged 76.

Philander B. Taylor, M.D. University of Michigan, Ann Arbor, 1885; a member of the Michigan State Medical Society; died at his home in Clio, March 30, aged 69.

John B. Woodward (license, Mich., years of practice, 1900); for forty-three years a practitioner of Michigan; died at his home in Ravenna, April 4, aged 63.

Albert Terry Bryan, M.D. Rush Medical College, Chicago, 1882; died at his home in Forest City, Iowa, March 28, from cancer of the kidney, aged 57.

Charles Louis King, M.D. Vanderbilt University, Nashville, 1909; of Louisville; died in Hot Springs, Ark., March 31, from heart disease, aged 23.

Lindley Park Cornell, M.D. Louisville Medical College, 1877; died at his home in Knoxville, Iowa, March 29, from heart disease, aged 55.

W. M. Pitts, M.D. Medical College of Georgia, August, 1849; died at his home in Thomson, Ga., March 24, aged 86.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of State of, Mobile, April 19-22.
Amer. Assn. of Genito-Urinary Surgeons, Washington, D. C., May 3-4.
Amer. Assn. of Pathologists and Bacteriologists, Washington, May 3-5.
American Climatological Association, Washington, D. C., May 3-5.
American Dermatological Association, Washington, D. C., May 3-5.
American Gynecological Society, Washington, D. C., May 3-5.
American Laryngological Association, Washington, D. C., May 3-5.
Am. Laryn., Rhin. and Otol. Society, Washington, D. C., April 28-30.
Amer. Medico-Psychological Association, Washington, D. C., May 3-5.
American Neurological Association, Washington, D. C., May 3-5.
American Ophthalmological Society, Washington, D. C., May 3-4.
American Orthopedic Association, Washington, D. C., May 3-5.
American Otological Society, Washington, D. C., May 3-5.
American Pediatric Society, Washington, D. C., May 3-5.
American Surgical Association, Washington, D. C., May 3-5.
American Therapeutic Society, Washington, D. C., May 5-7.
Arizona, Medical Association of, Phoenix, April 20-21.
Association of American Physicians, Washington, D. C., May 3-5.
California, Medical Society of State of, Sacramento, April 19-21.
Conf. State and Prov. Bds. of Health, Washington, April 28-29.
Congress of Amer. Phys. and Surg., Washington, D. C., May 3-5.
Connecticut State Medical Society, New Haven, May 25-26.
District of Columbia, Medical Association of, Washington, April 26.
Georgia, Medical Association of, Athens, April 20-23.
Illinois State Medical Society, Danville, May 17-19.
Iowa State Medical Society, Des Moines, May 20-21.
Kansas Medical Society, Topeka, May 4-6.
Louisiana State Medical Society, New Orleans, May 3-5.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 26-28.
Missouri State Medical Association, Hannibal, May 3-5.
Montana State Medical Association, Hunter's Hot Springs, May 11.
Nebraska State Medical Association, Lincoln, May 10-12.
New Hampshire Medical Society, Concord, May 12-13.
North Dakota State Medical Association, Grand Forks, May 10-11.
Ohio State Medical Association, Toledo, May 11-13.
Oklahoma State Medical Association, Tulsa, May 10-12.
South Carolina Medical Association, Laurens, April 19-21.
Texas, State Medical Association of, Dallas, May 10-12.

PHILADELPHIA PEDIATRIC SOCIETY

Special Public Meeting Held March 22, 1910

SYMPOSIUM ON MENTALLY DEFECTIVE CHILDREN

Obstetric Accidents Causing Mentally Defective Children

DR. EDWARD P. DAVIS: We may consider this subject under first, the accidents of pregnancy; second, the accidents of labor. Experiments show that continuous or violent disturbance of an impregnated ovum results in malformation and the production of monstrosities. Maternal impressions from fright or physical violence are undoubtedly followed by the birth of individuals malformed, and in many respects with altered minds. The coincidence is too widely observed to admit of doubt, but the precise manner in which the effect is produced is not clearly demonstrated. Sufficient is known to make it of the most importance that, in the interest of her offspring, the pregnant woman be not subjected to sudden or violent mechanical force or to great nervous shock. Great disturbance in maternal metabolism may result in the birth of malformed and defective children. Hereditary peculiarities of metabolism may influence the development of the fetus, and disturbances in fetal metabolism may also result in the production of defective offspring. Children born during maternal eclampsia may

perish from eclampsia or suffer permanent injury to the nervous system. Race degeneration from alcoholism and syphilis furnish familiar examples of the birth of deficient offspring. The accidents of labor affect the fetus through birth pressure and asphyxia. Strict enforcement of the proper hygiene of pregnancy will protect the fetus from the accidents which threaten its intrauterine existence. Clinical experience and a better knowledge of pathologic chemistry enable us to detect maternal and fetal toxemia before eclampsia results and to save the lives of mothers and children. Essential improvement in fetal mortality and morbidity is one of the most striking results of the development of modern obstetric surgery. Still further improvement can only be obtained by applying to all complicated labors the principles and practices of modern surgical technic.

Relation of Ocular Defects to Defective Mentality in Children

DR. W. T. SHOEMAKER: Defective mentality is here considered only as applied to children who are deficient or backward, but withal tractable, and offering promise of betterment or standardization. In the examination of the eyes of such children nothing is seen which is not found often enough in children of normal mentality, nor are the deviations from the normal of a strikingly high degree; they are, however, more constant. The relationship between ocular defects and defective mentality is not one of cause and effect; both mental and ocular deflections are equally related to some other common cause. The observed phenomena belong as a rule to that class designated by Walton as deviations, in contradistinction to the so-called stigmata of degeneracy, and children so affected are better classed as deviate or deviates than as degenerates. The ocular deviations may be noted in any part of the ocular apparatus. Errors of refraction have received more attention and more condemnation than all other eye defects combined. Backward children do not as a rule suffer from eyestrain. Ametropia is not a cause of mental deficiency in children but is a serious obstacle in the way of mental development. In dealing with defective children, all obstacles must first be removed, and it must be remembered that all knowledge of the outside world must reach a child through the special senses. There should be secured to the child the best possible vision with the least possible effort. Parents, guardians and teachers should be instructed in the status of the backward child, taught the possible significance of the outward signs of backwardness, and should search for peripheral irritations and obstructions, particularly for those connected with the organs of special sense.

Hearing and Speech of the Backward Child

DR. G. HUDSON MAKUEN: Three important cerebral faculties are suggested in the title of my paper, those of hearing, speech, and intellectualism, and they are so closely interwoven in respect to their functional activities that no one of them can reach its highest point of efficiency without a corresponding development of the other two. The cortical centers representing these faculties have a close physical interrelationship in their structural development, and each one may be thought of as training or educating the other two. For practical purposes, at least two classifications of defective children should be made. In the first class I would put all those whose defects are of organic origin; in the second class, those whose defects are of functional origin. The classification is not always easy to make and it is my custom to treat all doubtful patients as if they had a structurally normal brain and nervous system until treatment fails to produce the results expected under such conditions. The three avenues by which impressions of speech are carried to the brain are the auditory, the visual and the tactile; and if for any reason one of these avenues becomes closed or is undeveloped, the other two may be trained, up to a certain point, to perform the function of the third; and, as has been strikingly proved in the one case of Helen Keller, two of the avenues may be closed and yet great efficiency acquired by the individual in the use of speech and language. The teacher who does not possess sufficient knowledge of the psychophysical conditions underlying deafness and feeble-mindedness to enable him to determine, to some extent at least, the nature of the difficulties to be overcome, can scarcely be expected to have the necessary patience and skill for the practical application of successful remedial measures.

A little girl of 11 was practically a deaf mute when brought to me three years ago. She has no relative similarly affected. She has never been very strong and had whooping cough when 2½ years old. Her health is now fairly good and she is mentally alert and physically active. I removed her tonsils and adenoids in July, 1907. For the past three years she has been under treatment for deafness and defective speech. In addition to the ordinary treatment for her hearing I have been trying to teach her to make use of the hearing which has been developed and which she seems to have in somewhat latent form. She is now attending one of the special public schools and is getting on very well. She has learned to read the lips readily and speaks very well. The case illustrates some of the advantages of keeping deaf children in their homes and associated with hearing people. The credit of this case belongs largely to the child's mother who has acted on the suggestions which have been given her. Another patient is a boy of 8 whose speech was almost unintelligible. He has been under treatment for about a year in the home of one of my assistants and has made progress.

Possibilities of Development for Mental Defectives and the State's Care of Them

DR. MARTIN W. BARR, Chief Physician, Pennsylvania Training School for Feeble-Minded Children, Elwyn, Pa.: Building on Itard's methods for the awakening of the emotions through the exercise of the senses, adding to it Locke's theory of the connecting link between sensation and idea, Seguin gradually formulated a program which, verified in Paris, he later brought to America, and lived to see the fundamental principle governing the development and training of mental defectives throughout the world. It involves the careful diagnosis of physiologic and psychologic conditions, the development and strengthening of faculties and aptitudes or, as necessity may indicate, the restraining of certain instinctive and moral tendencies. Thus a study of functions and aptitudes, and the enlisting of the emotions, has revealed manual training to be a superlative motor in the development of mental defectives, while a prolonged observation of instinctive and moral tendencies shows a predominance of the former over the latter, amounting in many cases to absolute exclusion of the moral sense necessitating constant and life-long surveillance and protection. As schools for the feeble-minded have multiplied, individuals of similar aptitudes have been massed, the trainable being separated from the untrainable until a clear-cut grouping, according to ability and with corresponding occupations provided, has become the natural result. From this experience, an educational classification has been formulated meeting the needs of every known form of mental defect. From the classification it is obvious that a correct diagnosis is of primary importance. It is absurd to speak of cure. Defect is not disease as is insanity, and even when brought to its best condition, that irresponsibility—the unfailing characteristic of this perpetual childhood—precludes permanent success in anything. The influence of our methods on public education is evidenced in the recognition of backward children and the special schools furnished by boards of education. It is estimated that there are about 10,000 avowed cases of mental defect in Pennsylvania. Of these, the state provides for only 2,479. It is greatly to be desired that more adequate provision for both protection and prevention of mental defectives may be made and that, too, along lines of massing and grouping such as experience has already proved most practical and economical, giving asylums for the idiots and helpless classes, custodial institutions for moral imbeciles with suitable occupations; and training schools from which laborers and artisans may be drafted. These provisions should be accentuated and strengthened by the two essentials, asexualization and permanent sequestration.

How to Get the Best Results in Training the Mentally Deficient Child

MR. E. R. JOHNSTONE, Vineland, N. J.: The first thing to do is to make a careful inquiry concerning the results of the training in the past. The mentally deficient child is actually

trainable to a noticeable degree only through a space of a very few years. The most important factor in training is the selection only of those things which will lead to knowledge and power such as the pupil is likely to want to use and to have the opportunity to use. The mentally deficient child if actually defective should be under custody somewhere all his life. He will never earn his living by head work and, therefore, will need only enough of the "three R's" to teach him the simplest things. We must begin with the child and try first to ascertain those things which make him happy. If he is quite low-grade he likes to do things near or with the people who will give him much attention. There should be more direct connection of activities between the home and the school. The teacher of the defective child must train him through things which he understands, must begin on known ground.

Mentally defective and mentally deficient children will always be found in the public schools. These should be placed in special classes and the teachers should be the best obtainable who will hold before themselves always this question: Will this particular child ever use, or ever be able to use this thing I propose to teach it? To help answer this question there should be careful investigation of what has become of the children who were slow in going through the primary classes and those pupils who leave school over age but far behind. The class rooms for these children should be large, light and well ventilated. The regular desks should give way to tables and chairs which can be removed to one side and so give a large floor space for games, etc. There should be work benches and all ordinary needful tools and supplies. Window boxes, gardens, etc., lead to practical nature study which should be a direct step toward farming. Most of the girls may become good house girls and the boys will be assistants to carpenter, plumber, painter, etc. I am not asking that these children be made mechanics or artisans, but that realizing their deficiencies they be prepared in every way for the life they will probably lead.

Discussion

DR. WILLIAM BURKS, Bureau of Muncipal Research: We need very much some rough-and-ready test to indicate somewhat definitely the degree of departure from the normal of a given individual. The importance of that from a non-scientific point of view is that most of the mental defectives are not known. Such children are known to be queer, or stupid, or asinine, but no one knows just what the trouble is. I suspect that there are several hundred children in the schools of Philadelphia who do not belong there; they are in the way of other children, of the teachers, and of themselves, worrying along, becoming more nervous and more backward. We want the right thing done for the children, and if segregation and asexualization of defective children are proper methods, they ought to be carried out. That will not be done, however, until the people are educated to look for a test separating the defective from the normal. We ought not to be talking so much about curing or treating backwardness as about preventing it.

DR. JAMES THORINGTON: In my experience of sixteen years in examining the eyes of children at Elwyn and Vineland, I have noted much improvement from the proper adaptation of glasses to bring up the visual acuity. In a number of cases marked change was noted in the dispositions of the children.

DR. WALTER S. CORNELL: In asking for a rule by which any one can diagnose these defective children it must be remembered that inherent feeble-mindedness is essentially a medical subject. A diagnosis can best be made from the sociologic, physiologic and pedagogic points of view. In the doubtful case one must subtract or add for the child according to its mentality or environment.

DR. S. D. RISLEY: I think we should have another chair in our medical schools which should be specifically devoted to the study of sociologic medicine. It seems to me that the only person qualified to make such a classification as has been asked for is the expert. Such a classification is important not only for the teacher but for those members of the medical profession who are studying how they may benefit the backward child. It seems to me that the so-called backward child should be separated from the defective child in the sense in which this term has been applied by Dr. Barr and Mr. Johnstone. The former can be helped. The latter is helpless and hopeless from the cradle to the grave. It is of little value to put spectacles on a child who is essentially an imbecile. Many of those placed by Dr. Barr in the high grade can be helped very materially by removing some defects of their special senses, but their mentality is not such as to make them useful citizens aside from the training and care given in an institution. The backward child may be backward because of defective eyes, which is quite different from being mentally defective.

DR. ERNEST LAPLACE: The diagnosis of mental deficiency is no more to be treated in a haphazard manner than is the diagnosis of fever. Without knowing the cause we are not likely to know the remedy. From the surgical standpoint I find that a child is often backward because of adenoids or phimosis, or because of tongue-tie. There is also the general condition of backwardness in a child because the brain retains a certain amount of pathologic results of a former disease that the child has acquired or inherited. Sometimes a child is backward and the cause may be found in mother, father or grandfather. Congenital syphilis may not manifest itself until later years and sometimes in an obscure form. There is necessity for another chair in our medical schools, a chair of eugenics. The question must be thrown back to the source of medical education and the medical schools must take up the question and furnish means whereby a child can be located in a school for backward children and given a prescription. As in nervous diseases, we give massage, etc., so also there must be treatment according to the prescription of the professor of eugenics.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Twentieth Annual Meeting, held at Baltimore, March 21-22, 1910
(Continued from page 1229)

The Five-Year Course

DR. JOHN W. SCANE, McGill University: That the medical course should be extended beyond the four years seems pretty well agreed both in this country and in Canada. The problem seems to be to decide whether the added year be devoted to the primary branches, including the preliminary scientific subjects, or to increased clinical work in the hospitals. Many schools have solved the problem to their own satisfaction by demanding a high standard of preliminary education. From the standpoint of time, is it not possible to ask the student to spend too many of the most valuable years of life within the four walls of a college. One, or, at most, two years in the academic course should be sufficient, and most of that time should be spent in the study of science subjects. The ordinary work of the academic course in the science subjects is not, as a rule, extensive enough, nor is it suited to the special needs of the medical student. Therefore, courses should be arranged with a definite purpose of emphasizing their bearing on the basic subjects of anatomy and physiology. At McGill it is felt that the first year of the five-year course is as much a part of the medical course and as necessary to the student's future success as is the final year, which is spent in the study of clinical subjects in the hospital. The object has been to increase the number of hours devoted to the preliminary science subjects and to give as much of the additional time as possible to bedside work in the hospital. Most of the fifth year is devoted to hospital work. During the first year, biology, embryology, general chemistry, physics, anatomy, histology, and elementary bacteriology are taught. The second year work includes histology (up to Christmas), anatomy, physiology, organic and biologic chemistry, and pharmacy; the third year physiology (including physiologic chemistry), pharmacology, pathology, bacteriology, clinical microscopy and clinical chemistry are taught; the student also begins to visit the hospital, and is instructed in physical diagnosis, surgical methods and minor surgery. The fourth year takes up therapeutics and materia medica, medicine, surgery, obstetrics, gynecology, medical and surgical anatomy, and pediatrics. Hygiene, medical jurisprudence and mental diseases are taught in the fifth year. In Canada one of the provinces requires five years in medicine, a second province has just made this requirement, and four of the western provinces will follow suit.

DISCUSSION

DR. ELI H. LONG, University of Buffalo: Several institutions in this country have had an optional fifth year, but, on the whole, this has not been satisfactory. I believe that if the fifth year is made obligatory we are on the right track. Some colleges have made the fifth year a hospital internship year. It seems as though the fifth year will be inevitable, but it must be compulsory. Even now, most graduates enter a hospital after graduation, so that the best students voluntarily add a fifth year to their training. In adding the fifth year we must not think of overcrowding the student by adding extra work to the curriculum.

DR. A. RAVOGLI, Ohio State Medical Board: I would advocate making the fifth year an obligatory hospital internship or, as is done in some countries, a year spent in practice under the guidance of a preceptor.

DR. EGBERT LE FEVRE, University and Bellevue Hospital Medical College: I think the Canadians have solved this problem in a very practical way. We must remember, however, that it is the function of the medical school to make physicians but not the finished product. If a man does not get his theoretical training in a medical school, the probability is that he will never get it, so that we must have enough time for theory. When he comes to the five-year course we must decide whether it shall be purely a hospital training, or scientific training. I hope in the near future to see this association arrange a five-year curriculum so that when the time comes we will be ready for it.

DR. J. W. HOLLAND, Jefferson Medical College: When the curriculum committee of the Council on Medical Education of the American Medical Association prepared its schedule, the hours numbered 4,600, which was considered at least 600 hours too many. When the respective chairmen of the different groups were asked to cut down on their hour requirement, each one protested. I then proposed lengthening the course, as that seemed to be the only alternative, but the proposal did not meet with approval because it would give 400 hours to the biologic subjects that had been pushed out into the state universities. There is a vast difference between work done in the college and that done in the medical school. Not enough time is given to medical instruction. That forces the students at the expense of the final product. The majority of the students in many of the eastern schools take five years in medicine now. From 60 to 80 per cent. of the graduates in Philadelphia take hospital work for from 12 to 18 months after graduation. The hospital supports these students during that time, so that the item of expense is eliminated. If a sufficient number of colleges got together and agreed that at the beginning of the 1911 course they would demand five years in medicine, it could be carried out.

DR. E. P. LYON, St. Louis University: I favor demanding five years in the medical school rather than a preliminary year in the literary college because the literary colleges on which we are dependent for students are not prepared to give the students adequate training in one year in chemistry, biology and physics. Even if they were prepared, these subjects would be taught better in the medical school. Therefore, our school will make the preliminary year definitely one in the medical school.

DR. ISADORE DYER, Tulane University: At Tulane 10 per cent. of the students remain in the Charity Hospital for two years, making a six-year course. Many more would take advantage of this if opportunity were offered.

DR. W. B. HILL, Marquette University: If we could lengthen the annual course, shortening the vacation period by, say, one month, we could easily cover the ground. The children in the public schools have a ten months' session, practically forty weeks, and there is no reason why the medical student, who is better prepared to study than these children are, cannot do as much.

The Medical Curriculum

DR. WILLIAM H. WELCH, Johns Hopkins University: The object of medical education is to make good physicians. A given course that has no bearing on such training has no place in the medical curriculum. It is impossible to impart all of medical and surgical science to the student in four or five or even more years. The most we can expect to do is to give the student a fair knowledge of the principles of the fundamental subjects in medicine, the power to use the instruments and the methods of his profession, and to appreciate his attitude toward his patients and toward the fellow members of his profession. Put him in a position to carry on his education himself, because his education is only begun in the medical school. Of course, much depends on the teacher. No one could sit under John Dalton and men of his type without getting an education, an inspiration and a stimulus for the rest of his life. I think there is great danger in attempting to standardize the curriculum, because our methods of education are by no means final. We are only in a transitional stage in medical education. We should not attempt to set up anything in the way of a rigid uniform curriculum and, above all, it is nothing short of a calamity for state boards to indicate in their requirements for licenseship to practice what the standards of the curriculum should be. As to what shall be the context of the medical curriculum, I think the seven principal subjects still remain the backbone of medical education: Anatomy, physiology, pharmacology, pathology, medicine, surgery, and obstetrics and gynecology. Of course, every medical school must be in the position to offer elective work in the so-called specialties in medicine. It is impracticable to give the student thorough training in any specialty during his undergraduate life. I hope the time has come for nearly all schools to exclude from the medical curriculum studies which should be preparatory to the study of medicine, such as general chemistry and physics. They have no place in the medical curriculum. If educational conditions are not such as to include proper training in general chemistry, I dare say it is still necessary that it be taught in the medical school, but we must look on that as an impediment.

It is also important that the curriculum should not be too crowded. The student should have time for reading, exercise, and the digestion of knowledge. Courses in the specialties should be more or less optional, although there should be a minimum requirement in each subject. In the ideal curriculum there should be certain subjects which are optional, and others which are obligatory. Students should also be given the opportunity to take major and minor courses in the essential subjects. Only a very few medical schools can at present construct a curriculum on this basis, but it is none the less the ideal course. At Johns Hopkins this plan is pursued on the trimester system, and it is working out beautifully. As regards the arrangement of the curriculum, the so-called laboratory subjects are given during the first two years, and the practical subjects during the last two years. It is a question whether the student should not be given the opportunity to come in contact with patients as early as his second year in college. It would be a very decided improvement.

The character of the curriculum will depend a good deal on the methods of teaching. Laboratory teaching is, of course, ideal, but it must be supplemented by quizzes, recitations, and outside reading, so that the student will have a broader and more comprehensive view of the subject. It is certain, however, that we can devote more time than we do to-day to laboratory methods. We must improve the curriculum in the clinical department. The great thing to-day is a proper relation of the medical school to the hospital. It is a difficult thing to establish such a relation. If hospitals saw their interests, I think they would establish closer relations. The ideal is for the school to have its own hospital, and that, I think, is the most urgent need of medical education to-day.

My plea is for a flexible curriculum and not for a uniform, standardized, rigid curriculum. The state boards have had their influence on the character of the medical curriculum. State board examinations have been of great value to medical education; they have crowded the poorer schools to the wall and raised the standards of those that survived. At the same time, the character of these examinations is not such as is adapted to the best sort of a medical curriculum, because they are not practical examinations.

State Boards and High Entrance Requirements

DR. HERBERT D. HARLAN, Maryland State Board of Medical Examiners: State boards, while far from perfect, have done, are doing and will continue to do good and effective work. There ought to be a few richly endowed medical schools taking

high ground, admitting only students who are well-advanced, and giving them every possible advantage. But the boards and this association are not concerned with these. It is our duty to fix and maintain minimum standards of medical education. The maximum should have no limit. It is my opinion that no one thing will do as much to raise the standard of a medical school as a high entrance requirement. It is also my opinion that a good four-year high-school course is at this time a sufficient requirement, and that boards and associations, councils and committees on medical education will have full scope for all their energies if they devise an effective way to enforce strictly the present standards of entrance requirements.

DISCUSSION

DR. AUGUSTUS S. DOWNING, New York Board of Regents: There are two standards. The first is the local standard, which is determined by the legislature, and interpreted by the state board in the interest of the people, and not in the interest of institutions. The second standard is the institutional standard. The former should be made just as high as possible to the best interests of the people of the state, while the institutional standard should be made as high as the institution can carry. Before determining what a standard is, however, one must know where it comes from. There are high schools and high schools. Some high schools, four-year schools, are not doing any more work than would entitle them to be considered one-year schools. In New York high schools are rated on that basis. Every state should know what the instruction of every secondary school in the state is worth. Some colleges, for instance, give an A.B. degree when in reality the work done has not been that of a two-year high school. So when we come to talk about standards, we must bear in mind what the work of these secondary schools is. Wherever a locality can put up a standard to one year of college work, wherever the law will bear it out, wherever the condition of the institution will warrant it, by all means put it up; but remember that a general rule cannot be asked for in this country. When a school has the means and the power to do university work in medicine, it should do so.

Teaching of Ophthalmology

DR. A. R. BAKER, Cleveland College of Physicians and Surgeons: If all medical schools taught their students how to refract, the family physician would be in a position to do this work, the optometrist would pass out of vogue, and we would not have to fight optometric legislation. The teaching of ophthalmology is not carried out properly in most medical schools, the average teacher is contented to do a few cataract operations, to exhibit a few cases of obscure diseases of the eye, to point out the difficulties of diagnosis, and to impress on his students not to meddle with the eye, but to send all these patients to the specialist. I would advise teaching anatomy, histology and embryology of the eye to the freshmen, physiologic optics to the sophomores, refraction, retinoscopy and ophthalmology to the juniors, and practical work to the seniors

Economic Value of Refraction by Family Physicians

DR. LEARTUS CONNOR, Detroit: Family physicians as a class lack a working knowledge of simple refraction. Recognizing the value of the possession of such knowledge, a number of state boards are now requiring as a prerequisite for licensure a practical test in refraction. At present, very little of this work is being done by the family physician because of his inability, and yet we are all agreed that the income of the family doctor would be increased very considerably if he were able to do refraction work. It would form a point of contact with the specialists. The simple cases would be taken care of by the family doctor; the complicated ones by the ophthalmologist. There would be no need for opticians and optometrists. The interests of the patient would be concerned, the relationship of the physician to the patient would be strengthened, and in every way conditions would improve. Hence, if the study of refraction enables the family physician to place more correct lenses before the eyes of his patrons, there is an increased economic value to be credited to ophthalmology. There is no more reason for sending every refractive case to a specialist than for sending every obstetric, surgical or nervous case to a specialist.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Legislation in Kentucky

The medical profession in Kentucky has been remarkably fortunate in securing from the state legislature during the past session the enactment of all the measures which it desired. H. B. 108, which provides for the punishment of any person procuring a miscarriage on a pregnant woman by any means whatever has become a law. Section 4 of the law provides that the woman herself shall be a competent witness in any prosecution and shall not be considered an accomplice. Senate Bill 26, establishing a bureau of vital statistics and providing for the reporting of births, deaths, etc., has also been passed. The annual appropriation bill contains provision for an appropriation of $30,000 for the use of the State Board of Health and $10,000 for a hospital for incurables. This is certainly a creditable record and the enactment of these laws will do much for the cause of public health in Kentucky.

The *Kentucky Medical Journal*, for April, says editorially: "The General Assembly adjourns just as the *Journal* goes to press, and we have only time to announce that, thanks to an united profession and its lay friends, and especially to the devoted brother physicians in the legislature, every one of whom is a member of his county and state society, every measure for which the profession stood was passed by a practically unanimous vote. . . . Far more was done to protect the health and lives of the people of Kentucky by this legislature than was ever done by any other in the history of the state, and if we continue to prove worthy of it, the possibilities of the future are without limit."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—First Weekly Meeting

SUBJECT FOR THE MONTH: DISEASES OF THE NOSE AND THROAT

ANATOMY

NOSE: External nose; bony arch, cartilaginous arch, alæ, septum. Nasal cavities, Schneiderian membrane, turbinated bones, meati, nerves, blood-vessels. Accessory sinuses.

PHARYNX: Divisions, attachments, muscles, nerves, blood-vessels, lymphatics.

LARYNX: Shape, position, attachments, cartilages, ligaments, muscles, vocal cords, blood-vessels, nerves.

PHYSIOLOGY

NOSE: Smell, warming air, resonant cavity, filtration of air.

LARYNX: Voice production, function of pharynx.

EXAMINATION OF UPPER AIR PASSAGES

LARYNGOSCOPY: Physical laws involved, illumination, instruments.

ANTERIOR RHINOSCOPY: Pharyngoscopy, posterior rhinoscopy. Digital examination of nasopharynx. Laryngoscopy.

DISEASES OF THE NOSE

ACUTE RHINITIS: Etiology, treatment.

SIMPLE CHRONIC RHINITIS: Diagnosis, treatment.

PURULENT RHINITIS: Symptoms, treatment.

HYPERTROPHIC RHINITIS: Pathology, diagnosis, treatment. Use of galvanocautery, chromic acid, snare.

ATROPHIC RHINITIS: Etiology, symptoms, treatment.

NASAL HEMORRHAGE: Etiology, treatment.

REFERENCE BOOKS FOR THE NINTH MONTH.—Works on Diseases of the Nose, Throat and Ear, by Packard, Shurly, Coakley, Kyle (D. B.), Gleason and Bosworth.

Medicolegal

Physician's Claim Not Kept Alive by Payments by Patient's Wife—Admissibility in Evidence of Diaries

The Third Appellate Division of the Supreme Court of New York says that, in the case of Mott vs. Ingalsbe, as executor of one Northrup, deceased (120 N. Y. S. 151), the plaintiff, a physician, was awarded by a referee $170 on a claim of $1,744 for professional services rendered to said Northrup during a period extending over 21 years prior to his death. The referee decided that the statute of limitations of the state of New York was a defense to so much of the claim as accrued more than six years prior to the death of the said Northrup, and permitted a recovery for whatever services the plaintiff was able to prove had been rendered within such period of six years. The court considers that the referee correctly applied the statute of limitations. The payments claimed to have been made on account of the services were made by Mr. Northrup's wife, without his knowledge or consent; nor were they, so far as appeared, authorized or ratified by him, so that they did not remove the bar of the statute, or keep the rejected portion of the claim from being outlawed.

But the referee, the court holds, erroneously excluded from evidence some of the plaintiff's books of account. These consisted of divers small books or diaries containing original entries of his professional visits. If admitted in evidence they would have tended to show that he had rendered more professional services within the six years prior to Mr. Northrup's death than he was able to demonstrate without the aid of such books. Two witnesses testified that they had previously employed the plaintiff from time to time, and that they had settled their accounts with him from his books, and on such settlements found his books to be correct. The accounts thus testified to by these witnesses were contained in four books. The referee found that the accounts of these witnesses as contained in the books were correct, and that the said four books were honestly and fairly kept, but excluded the remainder of the books because they contained no entries of the accounts which were settled by these witnesses. It appeared that the plaintiff kept no clerk, and some of the services indicated by the books had been in fact rendered to Mr. Northrup as found by the referee. The preliminary proof necessary to make the books admissible in evidence was thus brought squarely within the rule declared in Vosburgh vs. Thayer, 12 Johns. 461, and many times reiterated. If these accounts had all been kept in one book, unquestionably such book, after the preliminary proof here made, would have been competent evidence. The fact that they appeared in various books was an unimportant circumstance. What was required within the rule of the Vosburgh case was proof that the plaintiff kept "fair and honest accounts, and this by those who have dealt and settled with him." The purpose of this requirement is to raise a presumption of the accuracy of the bookkeeping methods, and such presumption, when established, is not necessarily limited to the books containing the accounts of the witnesses called to establish the fairness of such accounts.

The judgment must be reversed, the referee discharged, and a new trial granted.

School Not "Regularly Conducted" if Incorporated Only in Another State

The First Appellate Division of the Supreme Court of New York has rendered a decision of general importance and interest in People vs. Reid (119 N. Y. S. 866), although the application in the case was but for a license to practice osteopathy in the city of New York. The "college" from which the applicant for the license claimed to be a graduate, it appeared, was located in the city of New York, but was incorporated under the laws of the state of West Virginia, as a stock concern, and had not been given permission by the regents of the state of New York to assume the name "college" or to confer diplomas or degrees, and had not obtained from the secretary of state a certificate authorizing it to do business within the state of New York. The evidence, the court holds, made the question as to whether this was a school or college regularly conducted, within the purview of the statute, one of law, which is decided in the negative.

The legislature of the state of New York evidently intended, the court says, to provide for licensing osteopaths who are graduates in good standing of a school or college of osteopathy duly organized, existing, and conducted under the laws of any state or territory within the United States; but it was not intended to provide that graduates of schools or colleges of osteopathy conducted within the United States, but without the sanction of the law of the state in which they are conducted, which is presumed to provide for proper supervision, should be licensed to practice osteopathy. Surely the legislature did not intend to recognize a school or college which was being conducted in violation of the laws of this state (New York), nor did it intend to recognize a school or college conducted in any other state or territory in violation of the laws of that state or territory.

It will not do to give to the words "regularly conducted school or college" the limited meaning for which counsel contended, namely, that they have reference only to the regularity of the sessions and continuity of the course of study at the school or college. The word "regularly," as used in legal proceedings and statutes, has a much broader meaning, and is ordinarily used in the sense of "duly," which means "lawfully," or "legally;" and such, the court thinks, is the meaning that the legislature intended by the use of those words in the provision of the statute involved here.

Qualification of Physicians as Expert Witnesses

The Supreme Court of Florida, Division B, says, in Copeland vs. State (60 So. R. 621), a homicide case, that a physician as witness was allowed to testify to the physical symptoms produced by strychnin poison, and to the exaggeratedly congested condition of the abdominal viscera of the deceased which he found to exist on an autopsy made by him of her body shortly after her death, and to state that the conditions that he found might have been produced by strychnin or ergot poisoning. He also stated that he had never had any personal experience with a case of strychnin poisoning; that all that he knew about it was derived from the study of medical books. A motion was made to strike out this evidence on the ground that the witness showed by his testimony that he had not had any personal experience, or personal observation in cases of strychnin poisoning, but the motion was denied, and the court does not think that there was any error here, the rule being that, to give an opinion on medical questions, one may be qualified by study without practice, or by practice without study.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

March 26

1 The Sense of Contact and the Genesis of Pleasure and Pain. E. B. Bronson, New York.
2 *Diagnosis and Treatment of Intestinal Protein Indigestion. A. E. Thayer and R. C. Turck, Jacksonville, Fla.
3 Nuclein by Intravenous Injection in the Treatment of Tuberculosis. E. P. Ward, St. Louis.
4 Personal Experiences with a Few Cases of Pellagra. P. V. Anderson, Morgantown, N. C.
5 Sinus Thrombosis Complicated by Cerebellar Abscess and Purulent Leptomeningitis. A. Braun, New York.
6 Salivary Calculi. G. T. Welch, Passaic, N. J.

April 2

7 *Visceral Sarcomata: Sarcoma of the Stomach, Heart, Mediastinum, etc. W. G. Thompson, New York.
8 The Surgical Management of Urethral Stricture and its Complications. E. Fuller, New York.
9 Freud's Views of the Mechanism of Hysteria. J. Smith and M. L. Neff, Brooklyn.
10 The Athletic Life in its Relation to Degenerative Changes in the Cardiovascular System. R. E. Coughlin, Brooklyn.
11 Acute Hemorrhagic Pancreatitis: Autopsy. J. C. Calhoun, Buffalo.
12 Uro-ureter from Neoplasm. B. Robinson, Chicago.
13 Cataract Operation on the Insane. F. M. Fernandez, Havana, Cuba.

2. **Intestinal Protein Indigestion.**—Thayer and Turck claim that intestinal indigestion of proteins is very frequent. Tryptophan is split off in the course of protein digestion, from which are produced indican and indolactic acid, which appear in the urine. They are the cause of symptoms of autointoxication. The clinical symptoms due to protein indigestion are manifold. Any of the great systems of the body may become deranged through them. For a long time the trouble is functional, but organic disturbances may result. Patients with enterotoxemia are frequently treated for long periods for anemia, headache, neurasthenia, disease of the skin, the liver, or the kidneys, or for "dyspepsia" of undefined type, with but transient, if any, relief, and frequently drift from one physician to another in habitual invalidism. Almost without exception they are self-medicators, repeatedly prescribing cathartics and other drugs for themselves, for experience has shown them that a brisk purge gives relief for a day or two. A patient may be in apparently good condition with no marked loss of weight, and without pallor, and may have a fair appetite; or there may be severe anemia, marked decrease in weight, lassitude, mental weariness, insomnia, melancholy, constipation, scanty urine and albuminuria. As a rule, the history covers periods of months or even years, and often includes an unwise use of proteins in the diet. Cases of protein enterotoxemia are more common among adults, but they may also be found among infants. It is very important to observe that this condition of protein enterotoxemia is almost without exception secondary to some other condition. The treatment includes cleansing of the bowels by laxatives, administration of ferments, removal of much protein material from the diet, intestinal disinfection, treatment of gastric secretions, and tonics.

7. **Visceral Sarcomata.**—In forty-three cases of sarcomata seen by Thompson, the disease showed the usual predilection for the jaw, pelvic bones and thigh. There were also seven cases involving lymph nodes in the neck. The growths were multiple, but there was no tendency to visceral or cutaneous metastases. One visceral case involved the kidney and one the occipital lobe of the brain, without metastases. There was one case of lymphosarcoma of the intestine in a patient 53 years of age, but there was no involvement of the other viscera or skin. In two cases the tumor was situated in the right orbit, without metastases to the liver or other organs. There were two cases of melanosarcoma of the skin with multiple growths which were very numerous. They were also without metastases, apart from the skin, at the time at which they were under observation. One of these cases involved the trunk and lower extremities, the other the trunk and upper extremities. This series of cases emphasizes the comparative frequency of visceral metastases, even when the local growths had attained to considerable size, whereas in the four cases of Thompson's personal series, the visceral extension was the most serious part of the disease. In one of these cases the primary tumor was in the eye, the metastases in the liver appearing three years after the eye tumor began. In the second case, a rapidly growing mediastinal lymphosarcoma caused sudden death from pressure. The third case, a melanosarcoma, showed 185 skin tumors appearing after the removal of a pigmented mole. The lung of the left side was almost solid. In the last case a sarcoma of the stomach involved also the heart and kidneys.

Boston Medical and Surgical Journal

March 31

14 *The Treatment of Infections of the Urinary Tract with Bacterial Vaccines. H. F. Hartwell and E. C. Streeter, Boston.
15 Ectopia of the Kidney: Report of Cases. J. C. Munro, Boston.
16 *Correlation of Respiration and Heart Beat During Exercise. E. A. Wright, Boston.
17 *Growing Pains: Possible Mechanical Explanation. L. T. Brown, Boston.

14. **Treatment of Infections of the Urinary Tract with Bacterial Vaccines.**—Hartwell and Streeter report in detail cases of urinary infection in which urinary antiseptics, irrigations, and vaccines were used alone or in combination. They reached the following conclusions: Bacterial vaccines are efficient in relieving symptoms in mild forms of cystitis, but have less marked effect on pyuria. They are without value in severer forms of cystitis. They probably hasten recovery in pyelitis. They have no influence on bacteriuria.

16. **Correlation of Respiration and Heart Beat.**—Wright believes that the correlation between respiration and heart beat during exercise is determined, in part, indirectly, through the cause leading to increased respiratory activity, but not at the beginning of exercises, but mainly by independent causes acting in harmony with each other.

17. **Growing Pains.**—It is said by Brown that strained or relaxed sacroiliac joints may be a marked factor in causing "growing pains" in children; that the treatment consists in giving support, combined with systematic exercise to these joints until they are strong enough to carry out their functions without causing any symptoms in the rest of the body; that the treatment is important not only from the point of view of the present day comfort, but equally so in regard to the health and efficiency of the child when it grows up to take its part in the world's work.

New York Medical Journal

April 2

18 *The Dissemination of Disease by the Fly. H. G. Beyer, Washington, D. C.
19 *Methods of Controlling the House-Fly and Thus Preventing the Dissemination of Disease. E. P. Felt, Albany.
20 *The Relation of Medicine to Pharmacy. M. Barbour, Philadelphia.
21 The Ideal Tonsillectomy. J. A. Pratt, Aurora.
22 Milk Intoxications by Ergotic Flora. C. R. Fitzpatrick, New York.
23 Present Status of the Treatment of Diffuse Peritonitis. A. E. Hertzler, Kansas City.
24 Modern Conception of Immunity to Diseases. J. V. May, Binghamton, N. Y.
25 Transfusion in Obstetrics and Gynecology. C. C. Sichel, New York.

18. **Dissemination of Disease by the Fly.**—The diseases discussed by Beyer in which the house-fly is a highly important etiologic factor are: Tuberculosis, leprosy, cholera, plague, summer diarrhea of children, carbuncle, frambesia, oxyuris, tenia, swine plague and typhoid.

19. **Controlling the House-Fly.**—We should not assume, says Felt, that the house-fly will entirely disappear in the near future. It is a remarkably persistent form and it is probable that the housekeeper will feel compelled for some years to come to use screens and other devices to prevent this insect gaining free access to the home. It is frequently necessary to supplement screens by the employment of sticky fly paper. This, though somewhat disagreeable, is much to be preferred to the use of poisonous preparations likely to result in dead flies dropping into food. The elimination of house-flies and their part in the dissemination of disease can be accomplished only through an understanding of the conditions necessary for the existence of the pests, and a general appreciation of the practicability of eliminating them to a very large extent. We should first take care of all materials known to produce large numbers of the insects and, with the knowledge thus gained, proceed against other breeding places until the flies are practically annihilated. Experience has demonstrated the possibility of this latter undertaking, and Felt sees no reason why equally successful results should not follow a determined campaign against the house-fly—an enemy of the human race responsible for the destruction of many lives and one allowed to exist because of our failure to recognize the relation of insects to sanitation.

20. **Medicine and Pharmacy.**—The druggist, says Barbour, should attend to his own business and to nothing else. By acting "physician," he endangers the health of the people, degrades his own professional standing, and loses the confidence and patronage of the physician. Barbour states that he would not trust a prescribing druggist. For a man who allows himself to practice a profession which he never studied, purely for material gain, is dishonest enough to commit all forms of substitutions and even to replace ingredients should it suit his financial purpose. Let each one attend to his own vocation, the one which he has chosen as his life's study, and become qualified and proficient. Let neither usurp the other's practice with subsequent injury to both and to the public. But let each, says Barbour, work in his own prescribed sphere with mutual interest to their respective professions and to the public at large.

Lancet-Clinic, Cincinnati

March 26

26 Requirements for Entrance into Medical Colleges. E. O. Smith, Cincinnati.
27 Medical Education of the Laity. H. Alburger, Bloomington, Ind.
28 Intraperitoneal Exploratory Hysterotomy. B. M. Ricketts, Cincinnati.

Philippine Journal of Science, Manila

October, 1909

29 *An Unusual Case of Amebic Dysentery. H. T. Marshall, Charlottesville, Va.
30 Sixth International Congress on Tuberculosis. F. Calderon and V. G. Heiser, Manila.
31 *The Cutaneous Reaction in Leprosy. O. Teague, Manila.
32 The Nastin Treatment of Leprosy. O. Teague, Manila.
33 Filtration of Immune Serums. E. H. Ruediger, Manila.
34 The Reaction of Culture Media in Relation to the Morphology of the Cholera Organism. Y. K. Ohno, Manila.
35 Immunizing Cattle Against Anticattle-Plague Serum. E. H. Ruediger, Manila.
36 Cholera in Children. A. J. McLaughlin, Manila.
37 Cattle Plague in the Philippines and the Methods Employed in Combating it. E. H. Ruediger, Manila.

29. Unusual Case of Amebic Dysentery.—In Marshall's case the acute course of the disease with the abundant hemorrhages and a peculiar nodular form of ulceration were unusual, although several similar cases have been recorded in the literature. The large intestine contained a large amount of dark red, almost black, pasty material in which amebas were numerous. From the ileocecal valve to the lower part of the rectum the mucosa was studded with nodular elevations which varied from 6 to 12 millimeters in diameter and which rose about an equal distance above the level of the mucosa. In most cases the elevation was surmounted by a mass of necrotic tissue which could be scraped off, leaving a deep crater-like ulcer extending well down through the mucosa. Only one or two small typical, irregular amebic ulcers were observed. Many active amebas were found in the detritus taken from the crater-like ulcers.

31. Cutaneous Reaction in Leprosy.—Four different extracts were made by Teague as follows: (1) From nodules taken from living lepers; (2) from the nodulous skin of a dead leper; (3) from the spleen of a dead leper; (4) a control from the skin of a cholera corpse. The material thus obtained was cut into small pieces or ground in a mortar, in the case of the spleen, and extracted in 5 per cent. glycerin. It was then heated on the water bath until the volume was reduced to about one-tenth of the original. Fifty lepers were vaccinated with these extracts, a control vaccination with the extract of skin from the cholera cases being made in each instance.

In 2 or 3 cases there was a doubtful reaction, but otherwise the vaccinations were in all respects like the controls. Further attempts will be made to secure a more concentrated extract of the leprosy bacilli. Owing to the low resistance of the tissues of lepers, it was not thought advisable to use the ocular reaction until the cutaneous reaction had been given a thorough trial.

Kansas City Medical Index-Lancet

March

38 A Famous Case Recalled (continued). J. Punton, Kansas City.
39 Subcutaneous Hemorrhages: Enuresis of Neuropathic Origin. F. C. Neff, Kansas City.
40 Personal Investigation Into the Dietetic Theories of America. A. Bryce, Birmingham.
41 The Health of Chicago for 1910. W. A. Evans, Chicago.

Vermont Medical Monthly, Burlington

March

42 Paranoia. W. L. Wasson, Waterbury.
43 Pelvic Inflammation. G. M. Sabin, Burlington.
44 Anterior Poliomyelitis. E. J. Melville, St. Albans.
45 Fevers from Cold. W. C. Abbott, Chicago.

West Virginia Medical Journal, Wheeling

March

46 *Sterilization of Confirmed Criminals and other Defectives. J. R. Bloss, Huntington.
47 *What can the Medical Profession do to Prevent Crime? G. D. Lind, Richwood.
48 Influence of Physical Defects of Personalities, Moral Obliquities and Crime. G. H. Benton, Chester.
49 Eclampsia; a Summary of its Treatment. J. H. Steenbergen, Huntington.

46. Sterilization of Criminals and Other Defectives.—Huntington believes that the defective classes are multiplying much more rapidly in proportion than the total population. Stringent marriage laws will not control the increase of defectives, for marriage is not necessary to procreation, and especially among irresponsibles. Vasectomy, which does not impair the sexual powers, fulfils every requirement for sterilizing males (other than rapists) and should be provided for by law. Salpingectomy should be provided for among defective females.

47. Prevention of Crime.—Lind favors vasectomy as the most efficient means for the prevention of crime.

Southern California Practitioner, Los Angeles

March

50 Rabies—Report of Cases from Skunk Bites. C. E. Yount, Prescott, Ariz.
51 Hydrophobia—Report of a Los Angeles Case. J. R. Colburn, Los Angeles.
52 Uncinariasis: A Los Angeles Case. J. M. King, Los Angeles.
53 Ptomain Poisoning—Eleven Fatal Cases. G. W. Peck, Sawtelle.
54 Medical Expert Testimony. A. S. Lobingier, Los Angeles.

Albany Medical Annals

March

55 *Specialization in Medicine. A. S. M. Chisholm, Bennington, Vt.
56 Epiphyseal Fracture of the Upper End of the Humerus. J. M. Berry, Troy, N. Y.
57 Treatment of Tuberculous Adenitis. A. F. Holding, Albany, N. Y.
58 Electric Treatment. H. M. Imboden, Clifton Springs, N. Y.
59 Radiotherapy. H. W. Van Allen, Springfield, Mass.

55. Specialization in Medicine.—Chisholm believes that specialization, while impoverishing the individual, has enriched the profession. What the specialists have lost, medicine has gained. The artists have become smaller but the art greater. The individual has sacrificed scope to depth, "comprehensiveness" to "profundity;" that is, he has sacrificed himself to his profession, but such a sacrifice ennobles the specialist.

Journal of Ophthalmology and Oto-Laryngology, Chicago

February

60 Acute Mastoiditis: Its Etiology, Diagnosis and Treatment. R. J. Tivnen, Chicago.
61 Recovery of Vision in an Amblyopic Eye after Four and a Half Years of Blindness: Contribution to the Question of Amblyopia Ex-Anopsia. C. M. Harris, Johnstown, Pa.

California State Journal of Medicine, San Francisco

March

62 Uses of Bacterial Vaccines in Urinary Diseases. G. MacGowan, Los Angeles.
63 Treatment of Genitourinary Tuberculosis with Tuberculin. F. M. Pottenger, Monrovia.
64 Radical Treatment of Genitourinary Tuberculosis. G. S. Whiteside, Portland, Ore.
65 The Dull or Backward School Child. R. W. Musgrave, Hanford.
66 *Value of Examinations of the Cerebrospinal Fluid in Diagnosis of Chronic Nervous Disease. H. C. Moffitt, San Francisco.
67 Congenital Dislocation of the Hip. H. M. Sherman and G. J. McChesney, San Francisco.
68 Pellagra in California. R. Blue, U. S. P. H. and M.-H. S.
69 Tropical Medicine. C. Wellman, Oakland.
70 Alkaptonuria. J. C. Spencer, San Francisco.

66. Value of Cerebrospinal Fluid Examination.—Moffitt examined the cerebrospinal fluid in 25 cases by means of the Nonne and Apelt globulin test or by the Noguchi reaction. He found that the tests are of most value in doubtful cases of general paralysis, tabes or cerebrospinal lues, in which either symptoms or signs are equivocal; or, they may help decide the importance and gravity of many functional nervous symptoms in patients with a history of lues who are suspicious of beginning tabes or general paralysis. Together with the Wassermann reaction in the blood serum and cerebrospinal fluid, they may help in determining the nature of apparent idiopathic epilepsy or in distinguishing brain tumors from syphilitic disease. They must be used, of course, only in conjunction with the general clinical picture, and their value can only be properly judged after the lapse of sufficient time to accumulate many more cases than are now on record. Moffitt emphasizes that it is unwise to practice lumbar puncture indiscriminately, as it is a procedure not without disagreeable sequelæ at times, particularly in neurotic patients with unstable vasomotor systems. There may be severe headache and dizziness for some days following puncture.

Long Island Medical Journal, Brooklyn

March

71 Low-Nitrogen Diet in Typhoid. H. A. Houghton, Bayside, L. I.
72 Traumatic Diseases of the Knee-Joint. R. Hazen, Brentwood, L. I.
73 Surgical Treatment of Gonorrheal Epididymitis. H. H. Morton, Brooklyn.

74 Use of Formidin in Chronic Suppurative Inflammations of the Middle Ear Complicated with Deafness. J. C. Warbrick, Chicago.
75 Tuberculosis of the Peritoneum, Uterus and Adnexa. F. J. Shoop, Brooklyn.

New Orleans Medical and Surgical Journal

March

76 Impetigo—Its Nature and Complications. A. J. Delcourt, Houma, La.
77 Resistant or Neglected Club-Foot in Adolescence. J. D. Bloom, New Orleans.
78 *Blood Findings in Twenty Cases of Pellagra in the Insane Asylum of the State of Louisiana. H. Daspit, New Orleans.
79 Poverty in Relation to Disease. H. D. King, New Orleans.
80 Infantile Scurvy: Two Recent Cases. E. D. Fenner, New Orleans.
81 Medical Aspects of Anterior Poliomyelitis. L. R. DeBuys, New Orleans.
82 Anterior Poliomyelitis: Etiology and Pathology. C. W. Duval, New Orleans.
83 Nervous Manifestations of Anterior Poliomyelitis. E. M. Hummel, New Orleans.
84 Obstetric Surgery. E. M. Williams, Patterson, La.
85 Abdominal Cesarean Section. S. M. D. Clark, New Orleans.
86 Indications for Vaginal Cesarean Section. C. J. Miller, New Orleans.
87 Surgery of Pregnancy, Complicated by Pelvic Tumors. C. N. Chavigny, New Orleans.
88 Curettage: Its Abuses and Indications. W. E. Sistrunk, Lake Charles, La.
89 High-Frequency Currents in Skin Diseases. L. L. Cazenavette, New Orleans.

78. **Blood Findings in Pellagra.**—The blood picture in 20 cases of pellagra examined by Daspit was fairly constant and deviated but little from the normal. There was a slight falling off in the total leucocytes and a relative lymphocytosis, more marked in the small mononuclears. The hemoglobin was consistently good, and the red blood count showed nothing abnormal. These findings may be said to be comparatively negative and to offer nothing of value from a diagnostic standpoint.

Bulletin Johns Hopkins Hospital, Baltimore

March

90 *Isoagglutinins and Isohemolysins. W. L. Moss, Baltimore.
91 *Clinical Experience with the Wassermann Reaction in the Johns Hopkins Hospital. P. W. Clough, Baltimore.
92 Etiology of Movable Kidney. F. W. Griffith, Baltimore.
93 *Nephrotomy by the Silver-Wire Method. E. H. Richardson, Baltimore.
94 *Antityphoid Vaccination, the Immediate Results of the Administration of 3,600 Doses. F. F. Russell, U. S. Army.

90. **Isoagglutinins and Isohemolysins.**—Moss' findings may be summarized as follows: Isoagglutinins occur in the serum of about 90 per cent., and isohemolysins in about 25 per cent., of adult human beings. They have no diagnostic significance. In a number of healthy individuals whose blood was repeatedly tested at varying intervals of time the agglutinating action was found not to vary, while in some cases the hemolytic which was present in earlier tests was absent in subsequent tests. There are at least three different isoagglutinins and three isohemolysins in human sera and three different isoagglutinophilic and three isohemolysinophilic receptors possessed by human red blood corpuscles. There are human sera which contain no isoagglutinin and isohemolysin but whose corpuscles possess receptors for isoagglutinin and isohemolysin. No individual serum appears to contain more than one of the three kinds of isoagglutinin or isohemolysin. The corpuscles of a given individual may possess no isoagglutinophilic or isohemolysinophilic receptors or they may possess two, or all three kinds of these receptors. Human beings can be divided into four groups according to the ability of their serum to cause isoagglutination and of their corpuscles to be isoagglutinated. The serum of members of any one group will not agglutinate or hemolyse the corpuscles of other members of the same group, but will agglutinate and may hemolyse the corpuscles of members of any other group except one. Autoagglutination was not observed in any of the 212 cases investigated and autohemolysis was observed only once. Isoagglutination may occur independently of isohemolysis but isohemolysis is probably always preceded or accompanied by isoagglutination. All the sera investigated contained an antihemolysin which protected the homologous corpuscles, and those of members of the same group from solution by any other serum. This antihemolysin is an antiamboceptor which acts by uniting with the cytophilic group of the hemolysin thus blocking it off from the red blood cell; and probably consists of receptor groups of the red blood cells which have been cast off from the cells or set free by the physiologic or pathologic destruction of the corpuscles. Isoagglutinin is thermostable. Isohemolysin consists of two components: one, thermostable (amboceptor), the other thermolabile (complement). The antihemolysin is thermostable. The origin of isoagglutinins and isohemolysin has not yet been satisfactorily determined. It probably cannot be referred to the destruction and resorption by an individual of his own blood.

91. **The Wassermann Reaction.**—In 99 cases examined by Clough in which syphilis could be excluded the Wassermann reaction was negative in all. In 51 doubtful cases in which clinically, syphilis was not probable, the reaction was positive in 4; in 50 in which syphilis was probable, a positive reaction was obtained in 33, or 66 per cent. In 45 cases which were certainly syphilitic, a positive reaction was obtained in 33, or 73 per cent. Excluding patients who had recently received thorough mercurial treatment, positive reactions were obtained in about 82 per cent. of those showing active syphilitic lesions. Positive reactions were obtained in 40 per cent. of 15 cases of tabes, and in all of the 7 cases of general paresis, which were tested.

93. **Nephrotomy by the Silver-Wire Method.**—The silver-wire method was used by Richardson with results that demonstrate two points: First, the value of the silver-wire method of nephrotomy in certain cases; and second, that the method very clearly has a limited field of application, and should not be employed in every case in which nephrotomy is indicated. Whenever abscesses, fibrous tissues or other pathologic conditions in the kidney render it necessary to exert strong traction on the wire in order to bisect the organ, many vessels will be lacerated, and consequently both the damage to the kidney parenchyma and the hemorrhage will be greater than if a knife were employed. The pulmonary complications in the second case following operation, show conclusively the dangers of omitting compression of the vessels at the hilum, and thus permitting free renal circulation while doing a nephrotomy on an infected kidney. Richardson feels sure that in this case an infected embolus was swept into the renal vein, thence to the vena cava, right heart, and finally lodged in the right lung, where it produced a localized pneumonia.

94. **Antityphoid Vaccination.**—The following conclusions by Russell are based on an extensive and intensive study of this subject:

1. Vaccination against typhoid undoubtedly protects to a very great extent against the disease.
2. It is an indispensable adjunct to other prophylaxis among troops and others exposed to infection.
3. It is very doubtful if there is an increase of susceptibility following inoculation.
4. Vaccination during the disease, for therapeutic purposes, fails to reveal any evidence of a negative phase.
5. The statement that vaccination should not be carried out in the presence of an epidemic is not justified by the facts at hand.
6. The procedure is easily carried out and only exceptionally does it provoke severe general reactions.
7. No untoward results occurred in this series of 3,640 vaccinations.

Journal of Cutaneous Diseases, New York

March

95 Pemphigus Vegetans; Special Reference to the Cellular Elements Found in the Lesions. M. B. Hartzell, Philadelphia.
96 Case of Pemphigus Foliaceus. H. H. Hazen, Washington, D. C.
97 Case of Pellagra in New Jersey. E. D. Newman, Newark.

Mississippi Medical Monthly, Vicksburg

March

98 Remarks on Pellagra with Report of a Case. A. W. Rhyne, Beulah.
99 Nasopharyngeal Diseases. H. Flowers, Brookhaven.
100 The Indiscriminate Use of Diuretics. S. W. Glass, Dublin.

Annals of Surgery, Philadelphia

March

101 An X-ray Study of Bone Atrophy. E. R. Corson, Savannah, Ga.
102 The Radical Extirpation of Pharyngo-Esophageal Pressure Diverticula. D. Stetten, New York.
103 *The Technic of Lung Resection with the Application of Both Forms of Differential Pressure. F. Sauerbruch and S. Robinson, Boston.
104 Functional Diagnosis of Renal Disease; Specially by Experimental Polyuria. E. L. Keyes, New York.
105 Infections of the Urinary Tract due to Bacillus Coli and Allied Organisms. L. S. Dudgeon and A. Ross, Philadelphia.
106 *Intraperitoneal Division of one Ureter. J. D. Barney, Boston.
107 *Perinephric Abscess. M. B. Miller, Philadelphia.
108 Genital Canal Block Following Neisser Coccus Infection. C. E. Barnett, Fort Wayne, Ind.

103. **Technic of Lung Resection.**—The experiments of Sauerbruch and Robinson have practical bearing in human surgery. They demonstrate that the removal of one lung, or a large portion of the same, can only be accomplished successfully when the cavity persisting after the operation is diminished in size as soon as possible, in order thereby to avoid the accumulation of a transudate. This reduction in pleural capacity is best accomplished by the crowding in of the neighboring organs. They have likewise been able to demonstrate under what conditions this displacement of organs is possible. An operative reduction in the capacity of the pleural space is possible through the mobilization and displacement of the chest wall. If the mediastinum become stiffened by chronic inflammation, the thoracoplasty which we perform may be an extensive one, without dangerous disturbances to the heart or remaining lung. It must be limited to the removal of a few ribs if the mediastinum is a movable one and easily displaced. Suturing the bronchus to the chest wall, which in certain conditions may be indicated, must be done in such a way that tearing of the mediastinum is avoided—that is to say, the chest wall must be approximated as nearly as possible to the mediastinum by means of the mobilization and displacement of the former.

106. **Intraperitoneal Division of One Ureter.**—The evidence derived by Barney from his experimental work, and from the clinical observations of others, is that the abdomen may bear without damage, and even, in some cases, without severe reaction, the effusion of a certain amount of sterile urine, and that it is able to guard itself promptly and efficiently against this effusion by the formation of adhesions. It is also evident, especially in animals, but probably more often than we realize in man, that a divided ureter soon becomes harmless by occluding adhesions or blood clot. It is in those cases in which this prompt occlusion does not occur, seen oftenest in dogs, or when the urine is septic from the start, that a general peritonitis sets in. The first and only sign of injury to the ureter which we may have is the appearance of urine in the laparotomy wound, or in the vaginal vault. In certain other cases accumulating fluid within the abdomen, with or without the formation of a urinary abscess, may be the first sign of the accident. Occasionally a general and severe peritonitis intervenes at once, and the injury is discovered only at autopsy or during the course of a secondary laparotomy.

107. **Perinephric Abscess.**—Of the 36 cases seen by Miller, 25 were males and 11 were females The age of the oldest patient was 60 and the youngest was 10, with the general average of 31 years, omitting the cases of preexisting renal infection, the average age was 28 years, showing clearly that the disease is one of early adult life. The right side was affected in 23 cases, the left in 13. The source of infection was unknown in 20 cases, in 2 there was pyonephrosis, 2 others were probably of renal origin, there was urethral infection in 2, influenza preceded 2, 3 were possibly derived from pelvic disease, peripheral suppurations probably caused 2, and trauma was prominent in 3 instances. Postural changes were noted in 10 cases, in the main being a tendency to flex the corresponding thigh, though in several cases there was some spinal curving and in one with sciatic pain flexion of the thigh was resented. Pulmonary phenomena were seen in 13 cases, varying in intensity from a simple cough to a fatal septic pneumonia; in 3 cases cystitis was present; 1 case developed subsequently a prostatic abscess; 1 patient had otitis media, and 1 had femoral phlebitis; in 1 there was a fatal cardiac dilatation, due to myocarditis; and in 1 the perinephric suppuration occurred in the course of parenchymatous nephritis. The urine was normal in 15 cases, practically normal in 5, having a trace of albumin with casts, etc., in 12, and showing pus in 4. The bacteriologic examination of the pus from the abscess was made in 23 cases and gave sterile results in 2 cases, colon bacillus in 6, staphylococci in 5, *Staphylococcus aureus* in 4, *S. albus* 2, *S. aureus* and *S. albus* in 1, streptococci in 2, and streptococci and pneumococci in 1. Thirty-five abscesses were evacuated and 1 patient declined operation and was discharged; 30 patients recovered and 5 died. This gives a total mortality of 14.3 per cent., or omitting the cases of recognized renal origin, 2 of the 4 patients dying, there is a mortality of 9.7 per cent. The cause of death in the 2 kidney patients was exhaustion in one and cardiac dilatation in the other, but both were probably uremic. In the other cases, one patient died of pleuropneumonia, another of peritoneal extension of the suppurative process, and the third of septic pneumonia. The death-rate is lower than in any previously reported series and compares most favorably with the 34 per cent. mortality of Küster's tables; this is doubtless due to the early recognition of the disease and the adequate drainage without unwise interference with the kidney.

Journal of Abnormal Psychology, Boston

February-March

109 Dreams and their Interpretations as Diagnostic and Therapeutic Aids in Psychopathology. B. Onuf, New York.
110 Conception of the Subconscious. B. Hart, Epsom.
111 Personal Impressions of Sigmund Freud and his Work: Special Reference to his Recent Lectures at Clark University (concluded). J. J. Putnam, Boston.

Buffalo Medical Journal

March

112 Nervous and Mental Manifestations due to Arteriosclerosis. F. H. Stephenson, Syracuse, N. Y.
113 Appendicitis. A. L. Benhan, Canandaigua, N. Y.
114 Necessity for the Filtration of a Polluted Public Water Supply. M. P. Conway, Auburn, N. Y.
115 Melanotic Sarcoma. W. L. Wallace, Syracuse.

Northwest Medicine, Seattle

March

116 Flexner's Antimeningitis Serum. G. B. McCulloch and P. V. von Phul, Seattle.
117 Varicocele of the Broad Ligament. J. E. Else, Pullman, Wash.
118 Social Hygiene. L. W. Hyde, Portland, Ore.
119 Abdominal Purpura and Appendicitis in Childhood. W. Gellhorn and K. Winslow, Seattle.
120 Transverse Incision in Operations for Appendicitis. A. E. Rockey, Portland.
121 Carcinoma of the Rectum—A Plea for Thorough Examination of the Lower Bowel by the General Practitioner. E. K. Scott, Boise, Idaho.
122 Pathology of Tumors of the Bladder. R. V. Dolbey, Vancouver, B. C.
123 Some of the Evils of Medical Practice. H. H. McCarthy, Spokane, Wash.

Archives of Internal Medicine, Chicago

March

124 *Blood Spots: A Medicolegal Study. C. J. Bartlett and S. J. Goldberg, New Haven.
125 *Effect on the Kidneys of Temporary Anemia, alone and Accompanied by Perfusion. C. C. Guthrie, Pittsburg.
126 A Study of Pneumoperitoneum with a Means for Its Diagnosis. W. W. Herrick, New York.
127 *Heart-Block with Infectious Diseases. F. W. Peabody, Baltimore.
128 Bacteriologic Studies on Parathyroid A and Parathyroid B. B. F. Proescher and J. A. Roddy, Pittsburg, Pa.
129 *Quantitative Estimation of Albumin in the Urine. A. F. Mattice, Baltimore.

124. **Blood Spots.**—The following are the conclusions which Bartlett and Goldberg regard warrantable: A blood drop falling only a few inches usually makes a round spot with a smoother border, though even here if the surface on which it falls is rough it may have an irregular border with spatters. When a blood drop falls vertically, whether from a height of only 1 or 2 feet or as much as 6 feet, the height is of only secondary importance in determining the size or shape of the drop or the amount of spattering. Within the limits just mentioned the character of the surface on which the blood drop falls, particularly as to its roughness or smoothness, is the chief factor in determining the amount of spicule formation and the degree of spattering. A blood drop falling vertically 5 or 6 feet on a smooth non-absorbent surface may form almost no spicules or spatters, but irregularities of the surface may cause marked spicule formation and spattering even when the height has been much less than this. The size of the main blood spot made by a drop falling from 3 to 6 feet depends more on the original size of the drop than the height from which it fell. The thickness of the layer of blood in dried blood spots, on surfaces which are non-absorbent or only slightly absorbent, is somewhat less the greater the height from which the blood fell. The height from which blood has fallen cannot be determined by the length of spicules, the elongation of spatters, the distance which spatters have fallen, or by the thickness of the layer of blood, except within wide limits. In general, conclusions as to the height from which blood drops fell, based on any of the appearances of the dried spot, should be made very guardedly.

125. Effect on the Kidneys of Temporary Anemia.—The method employed by Guthrie consists in temporarily shutting off the circulation in a segment of the aorta, including the origin of the renal arteries and then perfusing the kidneys by injecting the solution to be tested into this segment by means of a small trochar (or needle) thrust through the wall of the aorta, the instrument being connected by means of a rubber tube with a reservoir connecting the solution. On withdrawing the needle the puncture in the wall of the aorta is closed by several simple stitches which penetrate all the coats of the vessel. The clamps (serrefines) are then removed from the aorta and the abdominal wound closed. The animal is then bandaged and placed in the hospital. Guthrie found that anemia alone is apparently much less harmful than when accompanied by perfusion of any of the commoner salt solutions. The commoner salt solutions do not seem to differ greatly in toxicity. Attempts thus far to devise a non-toxic solution for profusing, *e. g.*, salt-starch solution, have received no encouragement from the results. Anemia with perfusion of the kidneys as a rule is followed by death of the animals within a few months—the majority dying in a few weeks. The cause of the differences in time of death of the animals are unknown. Individual peculiarities may be (and probably are) an important factor. Metabolic disturbances, seemingly in the direction of increased protein metabolism especially, occur. Decrease in urinary secretion preceding death is probably an important factor to consider in interpreting the final symptoms, which are those of uremic poisoning. Structural changes of a hemorrhagic and degenerative character occur in the perfused kidneys. Guthrie's results show conclusively that renal and adrenal anemia, coupled with perfusion with all the solutions tried, is much more harmful than anemia alone. Anemia alone is certainly not to be looked on as being without effect, but it seems that for cats, under the conditions of these experiments, short periods of occlusion are not incompatible with permanent recovery of the animal.

127. Heart Block with Infectious Disease.—Peabody holds that disturbances of the function of conduction in the heart muscles are at least occasionally encountered after infectious diseases. They probably occur oftener than is generally recognized, and are perhaps more frequently seen in cases of the "rheumatic series." The disturbance may be either complete or partial. Complete block is due in most instances to an organic lesion of the conduction fibers, but may, apparently, be due in part to nervous influences. Partial block is usually transient, and is probably due to the action of the vagus nerve on a poisoned myocardium. The prognosis depends chiefly on whether the underlying cause is organic or functional.

129. Albumin in the Urine.—Mattice regards the phosphotungstic method as being very much more accurate than the Esbach for a comparative quantitative estimation of albumin in the urine. Tsuchiya's reagent should, therefore, supplant the Esbach solution. The method can be relied on to indicate a slight rise or fall in albumin output, which is not true of the Esbach method. Readings are not influenced by changes in temperature to the same extent as with the Esbach test. Foaming or floating of the precipitate is rarely seen, and the precipitate settles much more evenly than with the Esbach reagent. The solution is lighter than water, and when added to urine does not mix until shaken but rises as a clear supernatant fluid, enabling one to read the meniscus accurately at the R mark on the Esbach tube. Because of its low specific gravity the urine needs no further dilution. The method can be used for large amounts of albumin as well as for small amounts. Tsuchiya's reagent is applicable in urines in which albuminuria and glycosuria coexist. Phosphotungstic acid in alcoholic solution is easily prepared, keeps well, and does not stain hands or clothes as does the Esbach reagent. Normal urines treated with Tsuchiya's reagent yield a slight precipitate. The method of Goodman and Stern in Mattice's experience has proved to be very inaccurate.

Gulf States Journal of Medicine and Surgery and Journal of the Southern Medical Association, Mobile, Ala.

March

130 Importance of Recognizing Mild Cases of Pellagra. G. Dock, New Orleans.
131 Early Symptoms of Pellagra. C. C. Bass, New Orleans.
132 Nervous and Mental Manifestations of Pellagra. J. M. Buchanan, Meridian, Miss.
133 Pathologic Findings in Nine Cases of Pellagra. O. L. Pothier, New Orleans.
134 Physiologic and Clinical Results of, and Indications for, Gastroenterostomy. S. Harris, Mobile.
135 Early Diagnosis of Gall-Stone Disease. J. E. Cannaday, Richmond, Va.
136 Delirium Tremens—New Plan of Treatment. G. E. Pettey, Memphis.
137 Personal Experiences with Hysteria. S. T. Rucker, Memphis.

Therapeutic Gazette, Detroit

March

138 *The Futility of Administering Antirheumatic Remedies in Certain Patients Suffering from Painful Joints. H. R. M. Landis and C. H. Muschlitz, Philadelphia.
139 Causes and Treatment of Vesical Irritability. C. W. Bonney, Philadelphia.
140 Indications for Therapeutic Abortion; Consideration of the Rights of the Unborn Child. W. Krusen, Philadelphia.
141 The Teaching of Therapeutics. H. A. Hare, Philadelphia.
142 *Contusions of the Back and their Complications. W. Lathrop, Hazleton, Pa.

138. Painful Joints.—Landis and Muschlitz emphasize the fact that only rarely, if at all, does prolonged pain in a joint mean chronic rheumatism; therefore salicylic acid and allied drugs have no place in the treatment of these conditions; at best their use affords but temporary relief. To treat these patients properly, a thorough physical examination is essential in order to determine whether the pain is dependent on a functional or an anatomic defect, and in the latter event to ascertain, if possible, whether the joint trouble is secondary to a chronic suppurating focus.

142. Contusions of Back.—The most common result of a severe contusion of the back, whether high or low, is extravasation of blood, the separation of the skin from underlying tissues, and the formation of a large fluctuating mass. Pain is present to a greater or less degree, usually being aggravated by any attempt at moving. Accompanying the extravasation mentioned, if the injury be severe, there may be laceration or crushing of muscles, or fracture of the scapula, while severe contusion of the ribs is not uncommon, and Lathrop has seen three cases in which hemorrhage in the lung occurred from a blow on the back, with fatal outcome. In the lumbar and sacral regions we may have contusion of the kidney and retention of urine, with blood in the same when withdrawn. Further, there may be a so-called concussion of the spine, causing temporary paralysis while in some cases complete use of the limbs may require weeks of rest and treatment, even when bladder symptoms have disappeared. A severe contusion low down may involve the sciatic nerve through injury of the gluteal muscles, which are sometimes badly bruised; while in one case the muscles were completely ruptured. A degeneration of a nerve is not impossible after a severe contusion. The treatment advocated by Lathrop is the following: In simple contusions of soft parts the absorption of extravasated blood should be promoted by cold, elevation, and pressure; but if at all extensive, or with marked fluctuation, immediate incision under aseptic conditions will give the best results. Rest is of paramount importance and massage of contused parts, such as elbow, shoulder, knee, ankle and hip, is of great value, after the acute stage is past. Lead and opium, arnica, alcohol and bichlorid applications are all used more or less, and no doubt with benefit. In severe injury involving not only the skin, but the muscles beneath, and possibly the bony structures as well, the best treatment is thorough examination under anesthesia, and treatment of the case as indicated—careful cleansing, suturing of any torn muscles, and provision for drainage. When sloughing occurs, and it does in many instances, the area should be well protected and treated as any other granulating surface. In regard to the spine, a traumatism must be very severe to injure the contents of the spinal canal, and must be regarded as serious; it will require time for repair or improvement, and must be treated largely symptomatically. The prognosis should be guarded at all times.

Providence Medical Journal

March

143 Fractures of the Lower End of the Radius. F. E. Peckham, Providence.
144 Use of Bacterial Vaccines in Therapeutic Immunization. W. G. Dwinell, Pawtucket.
145 Child Life. S. S. Burton, Providence.
146 Chronic Constipation. C. F. Peckham, Providence.

The Proctologist, St. Louis

March

147 The Anal Canal and its Diseases. G. S. Hanes, Louisville.
148 Advancements in Proctology J. M. Mathews, Louisville.
149 A New Anal Speculum. D. Roberts, Brooklyn.

Journal Michigan State Medical Society, Battle Creek

March

150 Diagnosis and Treatment of Prostatitis and Seminal Vesiculitis. M. A. Fechheimer, Detroit.
151 Suprapubic Prostatectomy. A. McLean, Detroit.
152 Major Amputations. R. H. Spencer, Grand Rapids.
153 *Landmarks in Diagnosis of Incipient Consumption. E. F. Otis, Battle Creek.
154 Emergency Surgery. H. B. Garner, Traverse City.

153. Abstracted in THE JOURNAL, Oct. 9, 1909, p. 1220.

Journal of the Medical Society of New Jersey, Orange

March

155 The Present Status of Hypnotism. W. H. Hicks, Newark.
156 Cows' Milk and Infant Feeding. H. Chavanne, Salem.
157 Artificial Infant Feeding. F. F. Bowyer, Jersey City.
158 Personal Equation in Infant Feeding. A. MacAllster, Camden.
159 Infant Feeding not Generally Recognized. J. F. Bell, Englewood.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

March 19

1 *The Streptotrichoses and Tuberculosis. A. G. R. Foulerton.
2 Use of the X-Rays in Skin Diseases and other Affections. A. H. Pirie.
3 *Treatment of Labor in Contracted Pelves: With Special Reference to the Justifiability of Pubiotomy. G. F. Blacker.
4 The Circulatory System. H. Campbell.
5 *Further Evidence of the Homogeneity of the Resistance to the Implantation of Malignant New Growths. E. F. Bashford and B. R. G. Russell.
6 The Contrast in the Reactions to the Implantation of Cancer after the Inoculation of Living and Mechanical Disintegrated Cells. M. Halland.
7 *Chorioepithelioma of the Testicle. O. C. Gruner.
8 Crepitations Heard in Third Left Intercostal Space in Cases of Mitral Stenosis. C. W. Cunnington.
9 Hemorrhage Due to Erosion by Soft Chancres. J. Rae.

1. **Streptotrichoses and Tuberculosis.**—There is no doubt in Foulerton's mind but that at one stage of its growth the bacillus of Koch is represented by branching mycelial threads of the streptothrix type. And this being so, he says, the common "bacillary" forms represent persistent rod-segments of the streptothrix, which reproduce themselves under some conditions directly, and without the intervention of a mycelial stage; but from a morphologic point of view there is no essential difference, beyond such as may depend on relative rapidity of growth, between Koch's bacillus and a typical streptothrix, such as Eppinger's, when growing on solid media.

Speaking of the varieties of tuberculosis, Foulerton regards it as certain that in avian tuberculosis the parasite is ingested with food. While the food of poultry kept under domestic conditions is not confined to vegetable products, Foulerton has seen isolated cases of tuberculosis occurring in fowls under conditions such that the only possible sources of infection were either human beings or food in the shape of grass or grain. But the human parasite is probably incapable of infecting fowls; and, infection from other poultry being in these isolated cases practically impossible under the existing circumstances, vegetable food appeared to be the only possible source of infection remaining. With regard to tuberculosis of the ox, while it is quite certain that infection is often conveyed by dust infected from a previous case, it would appear equally certain that in many cases infection occurs through the mucous membrane of the intestinal tract and is conveyed with vegetable food. While this frequent association of acid-fast organisms with herbage is remarkable, it cannot be suggested that any such direct association can be traced for the parasite of human tuberculosis. Nevertheless, it is of interest to note that the human parasite may be not far removed on the scale of evolution from some species of streptothrix parasitic for herbage.

3. **Treatment of Labor in Contracted Pelves.**—Blacker believes that the right solution of the problem is this: In any case in which it is considered inadvisable to perform Cesarean section, or in which this operation is rejected by the patient, and in which the induction of premature labor has been followed by the birth of a still-born child on one or more occasions, the patient may be allowed to go to full term, and, if necessary, pubiotomy may then be performed. An additional advantage of this plan of treatment would be that in many cases the necessity for pubiotomy would not rise, since spontaneous delivery might occur, a result which is attended with the minimum of risk to both mother and child. It must be remembered that although it is quite true that in the average pregnant woman the operation of Cesarean section is an easy and safe one, yet pregnancy does occur from time to time in women in whom any abdominal section would be an extremely dangerous operation, and such a patient might, if it were necessary, prefer pubiotomy to the destruction of her living child.

If the patient is in labor when seen and the head fails to engage or is arrested at the brim, then, if moderate traction with high forceps fails, in place of the forcible delivery with forceps of the head through the brim (an operation which entails a fetal mortality of at least 40 per cent.) or the performance of version (which entails even a higher fetal mortality), Cesarean section should be performed; while if the case is considered unsuitable for the performance of late Cesarean section, then pubiotomy certainly may be substituted for craniotomy of the living child. Pubiotomy should, however, only be practiced if it is certain that the child's life has not been in any way imperiled, and in view of the serious complications which may follow it is not an operation suitable for private practice, and should only be performed in a hospital.

5. **Malignant New Growths.**—The authors' experiments seem to demonstrate that after inoculation of a given dose of mouse tumor into a rat there is produced between the sixth and ninth day an active immunity which leads to a rapid destruction of any mouse tumor cells subsequently introduced. Further, it can be inferred that the production of this active immunity contributes to terminating the transitory growth of mouse cancer cells in rats. The cessation of these growths is due largely to active immunity concomitantly induced and to other influences directly injurious to them. The immunity induced in the rat against mouse cancer is very different from the active resistance of a mouse to inoculation of tumor of its own species, for, as demonstrated in 1908, mouse tumor cells can live and divide for eight or ten days in a resistant mouse, but they are incapable of eliciting the stroma reaction necessary for their establishment as a fresh tumor.

7. **Chorioepithelioma of the Testicle.**—The patient, aged 25, had pain in the left testicle, which was found to be enlarged. Though the swelling was soft at first it had become hard and he had noticed little knobs on it. Examination of the testicle showed a hard swelling partly involving the organ, but mainly occupying the epididymis. The cord was not thickened and there were no adhesions between the swelling and the skin. Syphilis and tuberculosis were excluded, so that castration was performed. Recovery was uneventful. The character of the cells strongly recalls that of deciduoma malignum. Close examination reveals a similarity on the one hand to sarcoma cells and on the other to the cells of spheroidal-celled carcinoma, so that the tumor might be called sarco-carcinoma.

British Medical Journal, London

March 19

10 Gastric and Duodenal Ulcer. F. J. Smith.
11 Dysmenorrhea. R. A. Gibbons.
12 The Surgeon, the Patient, the Student, and the Nurse. W. Mills.
13 Carcinoma of the Kidney. K. Monsarrat.
14 Peritoneal Pseudomyxoma Originating from the Vermiform Appendix. W. Trotter.
15 Pelvic Hematoma of Ovarian Origin. T. Holmes.
16 *Case of Family Albuminuria. J. N. Fergusson.

16. **Family Albuminuria.**—For over 20 years Fergusson's patient had been passing large quantities of albumin in the urine, three grams per liter. Microscopic examination revealed no casts or corpuscles, and there was nothing to suggest renal trouble. The heart was normal in size, the sounds were normal, blood pressure was in the limits of the normal, and there was little or no arterial thickening. There had never at any

time been any edema of the eyelids or legs, or any other sign of renal disease. At many examinations Fergusson always found albumin present, and he thinks that he is justified in believing that it has been constantly present, at any rate since it was first detected in 1886, by the fact that, since then, the patient has frequently had the urine examined, always with a positive result, and that three insurance companies refused him on that ground between 1886 and 1889. The patient has maintained his usual high standard of health, and although he has always been thin and spare, he is very tough. The most remarkable feature of the case, however, is that all the members of the patient's family exhibit the same peculiarity. They are all perfectly well, and, considering the age the parents have attained (87 and 78 respectively), such a case as this should have an important bearing on the question of rejection or "loading" of candidates for life insurance.

Glasgow Medical Journal

March

17 Significance of Certain Changes in the Composition of the Urine. D. N. Paton.
18 *Acute Pneumonia and its Treatment. A. Napier.
19 Addison's Disease. R. B. Ness.

18. Acute Pneumonia and Its Treatment.—In 20 years Napier has had 460 cases of acute pneumonia. Of the 460 cases, 335 patients recovered and 125 died—a recovery rate of 72.82 per cent., and a death rate of 27.17 per cent. This includes absolutely every case, with no omissions whatsoever. If we deduct 18 patients who died within 12 hours after admission there remain 442 cases—335 recoveries and 107 deaths—a mortality of 24.20 per cent. and a recovery-rate of 75.79 per cent. If we similarly cut out those, 34 in number, who died within 24 hours after admission, there remain 426 patients—335 recoveries and 91 deaths—a death rate of 21.36 per cent. and a recovery rate of 78.63 per cent. Lastly, if, as is usually done with infirmary statistics, we drop out of account those patients, 49 in number, who died within 48 hours after admission, there remain 411 cases—335 recoveries and 76 deaths—a mortality of 18.49 per cent., and a recovery rate of 81.50 per cent. It may well be assumed, Napier says, that if a patient survives for 48 hours after admission he has become fairly under the influence of the treatment adopted, and his case serves as a fair test of the value of such treatment.

Two hundred and nine patients were males, 45.43 per cent., and 251 were females, 54.56 per cent. Of 460 cases, 209 were males, and the deaths among these numbered 68, a percentage of 32.53; the recoveries were 141, a percentage of 67.46. Of the total of 460 (excluding no case, however soon death occurred after admission), 251 were females of whom 194 recovered, 77.29 per cent., and 57 died, 22.70 per cent. These figures indicate that pneumonia is a much more deadly disease in men than in women. Of the 49 patients who died within 48 hours after admission, 31 were men and only 18 were women, and this, notwithstanding the fact above noted, that the male patients numbered only 209, as against 251 female.

The patient is kept absolutely in bed; he is fed hourly while he is awake, his diet during the febrile period consisting of fluids, such as milk and well-thickened beef-tea or chicken soup, about 4 fluidounces on each occasion, the milk being sometimes given in the form of curds. No poultice or other form of external treatment is used; no opiates or hypodermic injections of morphin. Pain, usually pleuritic, was found to be best relieved by the application of a firm binder, 4 or 5 inches broad, pinned round the lower ribs below the nipples. Napier cannot recall any cases in which he had occasion to order the administration of morphin hypodermically, or in which the firm binder failed to ease pain. In the way of medicines, Napier's sheet anchor has been a combination of chloral and digitalis, given every three, four or six hours; 7½ to 10 grains of chloral hydrate with 10 minims of the tincture or 1 or 2 drams of the infusion of digitalis. Strychnin he gives when heart failure seems to threaten. It should be given freely, if given at all. Oxygen also he has found of much value when cyanosis begins to be evident; it also has to be given lavishly if any good is to be expected from its use. He has used stimulants very sparingly—probably not at all in at least one-half of his cases.

British Journal of Children's Diseases, London

February

20 Cyclic or Recurrent Vomiting Associated with Hypertrophic Stenosis of the Pylorus. A. E. Russell.
21 Purpura Fulminans. J. D. Rolleston and T. McCririck.
22 Occurrence of Adenoids in Three of the London County Elementary Schools. M. Yearsley.
23 Spasmus Nutans with Nystagmus. J. B. Barrett.

Indian Medical Gazette, Calcutta

February

24 Circulatory Diseases in India. F. J. Drury.
25 Occurrence of an Epizootic of Fowl Septicemia in Calcutta and Prophylactic Treatment of the Disease by Vaccine. G. C. Chatterjee.
26 Medicolegal Practice in the Mofussil. W. D. Sutherland.
27 Extraordinary Series of Outbreaks of Plague in Cape Colony, due to Case to Case Infection. E. N. Thornton.
28 *Ventrofixation of the Uterus: A Protest. R. H. H. Goheen.
29 *Death from Intraspinal Injection of Novocain and Strychnin. W. Gabbett.

28. Ventrofixation of the Uterus.—Goheen believes that this operation still has a useful place in gynecologic surgery. In cases of prolapse in old multipara, in which pregnancy is almost certainly not to be expected, ventrofixation of the uterus may be permissible, but in young women he regards it as unjustifiable and dangerous to correct malpositions of the uterus by a fixation to the abdominal wall.

29. Death from Intraspinal Injection of Novocain and Strychnin.—Gabbett's patient, aged 40, had a large elephantiasis of the scrotum, weighing 31 pounds. An injection of 3 c.c. of distilled water containing one milligram of strychnin hydrochlorid and one decigram of novocain was given between the eleventh and twelfth dorsal vertebræ. Onset of anesthesia was rapid and in 5 minutes had reached the level of the nipples. Ten minutes later it was noted to be 3 inches above the level of the nipples. The patient sat up for 1 minute after receiving the injections and then lay down with his head on a pillow.

About half an hour after receiving the injection, he complained of difficulty in breathing and attributed it to the weight of the tumor which was being turned up over the abdomen in order to complete the incision below. After lowering the tumor he still seemed to have difficulty in breathing, but as he attempted to vomit slightly, Gabbett considered that it was due to nausea and faintness and would pass off. At this stage the skin flaps had been reflected, penis and testicles enucleated, and everything was ready for the final severing of the pedicle. No undue amount of blood had been lost; indeed, the pulse showed no sign of shock. The patient at this stage stopped breathing. Artificial respiration was commenced at once and it was noticed that the arms were rigid from spasm, so much so that at first they could only be moved with difficulty. The most energetic attempts failed to resuscitate the patient. There was no doubt that death was due to respiratory failure, whether as a result of spasm from the action of the strychnin on the medulla or from partial paralysis due to the action of the novocain Gabbett says is difficult to determine. Judging from the stiffness of the arms, he would attribute it to the former cause.

Annales des Maladies des Org. Génito-urinaires, Paris

February, XXVIII, pp. 289-384

30 *Resistance of Animals to Destruction of the Kidneys. F. Putzu.

30. Resistance of Animals to Destruction of the Kidneys.—Putzu reports experiments on dogs and rabbits, the outcome demonstrating that the animals may survive even when part of the remaining kidney is removed after a nephrectomy. The limit of tolerance seems to be about three-fourths of the total supply of kidney substance. Removal of more than this is fatal sooner or later.

Annales de Médecine et Chirurgie Infantiles, Paris

February 15, XIV, No. 4, pp. 109-142

31 *Infantile Quadriplegia with Pneumococcus Infection of the Meninges. E. Gaujoux and F. Maillet.
32 Latent Tuberculous Peritonitis in Ten-Months Old Infant. L. Tixier and J. Troisier.
33 Prognosis of Appendicitic Abscess. M. Savariaud.

31. Acute Infantile Paralysis from Pneumococcus Infection of the Meninges.—Gaujoux and Maillet report a case of infantile quadriplegia and pneumococcus infection of the meninges, in which the total flaccid muscular paralysis, the absence of tendon phenomena and the abnormal movability of the joints suggested Oppenheim's congenital muscular atony

in some respects, but the sudden onset of the symptoms and their retrogression exclude this diagnosis. The infection of the meninges demands repeated lumbar puncture and modifying injections, possibly of antimicrobian serum. For this, he says, physical, chemical, cytologic and bacteriologic tests may be necessary in each case.

Archives des Maladies de l'App. Digestif, Paris

February, IV, No. 2, pp. 49-112

34 Spontaneous Chronic Ulcer in Six Dogs after "Isolation" of the Stomach. (Etude de pathologie comparée.) F. Moutier.
35 *Experimental Research on Pathogenesis of Gastric Ulcer. A. Bauer.

35. Pathogenesis of Gastric Ulcer.—Bauer has been repeating the experiments of F. B. Turck as reported in THE JOURNAL, June 9, 1906, but he states that his results and his conclusions from the findings seem to contradict those of Turck.

Bulletin de l'Académie de Médecine, Paris

February 22, LXXIII, No. 7, pp. 185-212

36 Coloring Matters Used in Articles of Food. Béhal and committee.
37 *Successful Treatment of Epithelioma of the Face with Pure Formalin. H. Hallopeau and P. Fumouze.

37. Formalin in Treatment of Epithelioma of the Face.—In the 2 cases reported, the liquor formaldehydi was applied on a wad of cotton after the ulceration had been softened with moist dressings. The application was repeated four days later and after the thick eschar had been thrown off the lesion healed, leaving a smooth scar. There was no reaction in the surrounding tissues. The method is now being applied in a case of verrucous lupus with, the authors state, promising results to date.

Archives de Médecine des Enfants, Paris

March, XIII, No. 3, pp. 161-240

38 *Epidemic Cerebrospinal Meningitis. J. Comby.
39 Infantile Pseudoleucemic Anemia. (Maladie de Jaksch.) D. Kiroff.

38. Epidemic Cerebrospinal Meningitis.—Comby relates his experiences with 31 cases of cerebrospinal meningitis in children, including 8 young infants; 5 were between 1 and 2 years old, 9 between 2 and 4, and the others between 5 and 15. The symptoms and course varied widely but serotherapy gave excellent results; he injected the serum through the same needle puncture after withdrawal of cerebrospinal fluid. Hot baths at 38 C. (100.4 F.), repeated three or four times a day, proved a useful adjuvant, with ice to the head and sedatives.

Grèce Médicale, Syra, Greece

XI, Nos. 15-16, pp. 33-36. Last indexed August 28, 1909, p. 747

40 Anemia of Renal Origin. G. D. Syklotis.
41 *Familial Angiocholitic Cholemia. P. N. Divaris.

Nos. 17-18, pp. 37-40

42 Oriental Sore in Greece. (Leishmanioses en Grèce.) J. P. Cardamatis. Commenced in No. 13.
43 The Condition Preceding Arteriosclerosis. (La présclérose.) G. D. Syklotis.
44 *Malaria in Children. (La malaria infantile.) J. P. Cardamatis.

XII, Nos. 1-2, pp. 1-4

45 Influenza Affecting Almost Exclusively the Nervous System. (Formes nerveuses de la grippe.) P. N. Divaris.
46 *Experimental Research on Transplantation of Testicles, Kidneys, Spleen and Eyes. (Transplantation des testicules.) S. Zervos. Commenced in No. 19.

41. Familial Angiocholitic Cholemia.—Divaris refers to the presence of bile in the blood as liable to occur in several members of a family, following inflammation of the gall-bladder. The syndrome includes hyperchlorhydria and a special form of sudden uncontrollable diarrhea. Among the secondary symptoms are a tendency to hemorrhoids, to mucomembranous enteritis and to appendicitis. The abdominal wall may be relaxed, the intestines distended, the spleen enlarged, the kidneys irritated as evidenced by intermittent or orthostatic albuminuria; pruritus and urticaria are frequent and there may also be a tendency to gastric hemorrhage, to headache, recurring bronchitis, pleurisy, rheumatism, epistaxis and mild joint affections. The temperature is highest in the morning and the patient generally develops neurasthenia or even pronounced melancholia. Some cases are entirely free from all these secondary symptoms. He summarizes the treatment as bed rest, exclusive skimmed milk diet—three liters in the twenty-four hours—which aids in throwing off the bile pigments in excess in the blood, abstention from fats as they fatigue the liver cells, and a glass of mineral water before breakfast.

44. Malaria in Children.—Cardamatis has noticed that infants less than three months old in Greece are rarely affected with malaria and all seem to be comparatively immune up to the end of the first year. But between the ages of 2 and 7 children are particularly liable to acquire malaria, especially during their third year. The malaria in the mother does not seem to influence the general condition of the fetus in any way; it seems probable that certain antibodies develop in the fetal blood or in the fetal portion of the placenta which injure the malaria germs and destroy them as they enter the placenta. In both nurslings and older children he has demonstrated an organic resistance to the toxic products of the hematozoa, this natural immunity, however, varying widely in degree. A natural immunity seems thus to occur in Greece similar to that observed among the blacks in Africa. This immunity has been demonstrated even in children who most certainly have never had malaria and it thus differs from the immunity described by Koch, Plehn and v. Pirquet, and is also entirely different from that observed by Celli in the Roman campagna. Malaria in both children and adults in Greece seems to assume predominantly the tertian estivo-autumnal type. Children are more apt to develop the chronic than the acute form.

46. Experimental Transplantation of Testicles, Spleen and Eyes.—Zervos reports over 412 different experiments in this line with rabbits, monkeys, dogs, cats and guinea-pigs, this experience showing that the testicle from one animal can be transplanted into another of the same species and even of another species, and replace the normal testicle. The transplanted testicle may continue its functioning and produce normal spermatic fluid, but finally is absorbed by the end of a year. The implantation of several testicles induced priapism in the male animals and nymphomania in the females, persisting for about a year, by which time the organs in their subcutaneous bed had been completely absorbed. During the process of absorption there is intense stimulation of the genital apparatus. Zervos states that the practice of castration is still so common in the East that it is a most important medical problem how to aid the eunuchs who implore the physician for some means of relief from their condition. He is convinced that the results of his experiments open a promising outlook in this line, and also for the treatment of impotency. He took some of the animals to Budapest to demonstrate his method and the results before the recent international medical congress. Some were dissected by Waldeyer at Berlin and he cites the latter's report. He also announces that he is soon to make another trip to Europe to demonstrate in the medical centers a number of his engrafted animals, his methods, results, etc. He offers to present his material before any scientific society or university and submit the animals to every possible test and means of control. The transplanted testicles, kidneys and eyes resumed functional activity when derived from a young animal; those from older animals do not display this power of continuance of functioning. Kidneys and spleens are absorbed more rapidly than testicles. He is now engaged in research to determine whether other vital organs, lungs, liver, uterus, heart, etc., can be replaced by others transplanted from another individual, and remarks that the outlook already is promising.

Lyon Chirurgical, Lyons

March, III, No. 3, pp. 257-352

47 Leucoplasia in the Bladder Probably of Neoplastic Origin. (Leucoplasie vésicale.) Rochet and Murard.
48 Fracture of the Malleolus. III. (Fractures malléolaires recentes.) E. Destot. Continued.

Lyon Médical, Lyons

February 20, XLII, No. 8, pp. 393-440

49 *Tuberculous Paroxysmal Tachycardia and Arrhythmia. J. Bertier.

February 27, No. 9, pp. 441-492

50 *Actinomycosis of Tissue Around the Kidney. (Phlegmon périnéphrétique de nature actinomycosique.) Leclerc-Montmoyen.

49. **Tuberculous Paroxysmal Tachycardia.**—Bertier has encountered two new cases since the one he reported in 1905 in which paroxysmal tachycardia was observed during the course of pulmonary tuberculosis. Nothing could be discovered during life or at autopsy to explain the attacks except the tuberculosis. He has found two similar cases on record, and adds a report of a case in which paroxysmal arrhythmia, evidently a latent tachycardia, was accompanied by gastric disturbances and vomiting. The rapid heart action observed was in every respect like that of the so-called essential tachycardia. In all the cases the tachycardia was arrested at once by vomiting induced by ipecac. In every case of tachycardia, he says, search should be made for possible underlying tuberculous infection if such is not already clinically evident. In most of the cases mentioned there were advanced lesions in the lungs, but one patient was in an early stage of pulmonary tuberculosis.

50. **Actinomycotic Phlegmon near the Kidney.**—In the case described the patient was a butcher, 40 years old, who refused to permit evacuation of the abscess until it had assumed very large proportions. For a long time the diagnosis had been pleurisy without effusion. The wound did not heal properly after the abscess had been opened, and the general condition grew rapidly worse. The pus was examined under the microscope 16 days after the operation, and on the discovery of the ray fungus potassium iodid was given. In less than three days the whole syndrome was arrested and complete recovery soon followed. Another tumor developed later in the hypochondrium, but retrogressed on resumption of the potassium iodid.

Obstétrique, Paris

February, III, N. S., No. 2, pp. 105-200

51 The Muscles and Ligaments Connected with the Coccyx. (L'appareil musculo-ligamenteux du coccyx.) L. Devraigne and P. Descomps.
52 *Treatment of Genital Tuberculosis. A. H. M. J. van Rooy.
53 *Treatment of Extrauterine Pregnancy. (Traitement de la grossesse extra-utérine.) E. Essen-Möller.

52. **Tuberculosis of Genital Apparatus.**—Van Rooy reviews his experience with several cases of severe tuberculous processes in the ovary or throughout the genital apparatus, the results confirming the advantage of operation. Even if surgery does not cure completely, it relieves and permits long survival. If the patient does not improve under the ordinary measures, he advises hysterectomy. In one such case the debility of the patient and an evident latent pulmonary process did not deter him from doing abdominal hysterectomy. The woman rapidly convalesced and the general condition improved beyond anticipation. It is surprising, he remarks, how well a major operation is borne by such patients.

53. **Treatment of Extrauterine Pregnancy.**—Essen-Möller has operated in 47 out of 48 cases of extrauterine pregnancy. All the patients recovered. In the one non-operative case the patient was confined to her bed for six months and the hematocele was not entirely absorbed until after two years. In another case he did not operate until the non-absorption of the hematocele after nine months compelled it. In the operative cases the patients were dismissed in three weeks. His experience is all in favor of prompt operation.

Presse Médicale, Paris

March 9, XVIII, No. 20, pp. 169-176

54 *Pseudotumors of the Brain and Serous Meningitis in the Ventricles. (Pseudo-tumeurs cérébrales et méningite séreuse ventriculaire.) F. Raymond.

March 12, No. 21, pp. 177-184

55 Indications and Technic for Bronchoesophagoscopy. M. Guisez.
56 Syphilitic Chronic Atrophy of the Aorta. M. Letulle.
57 Spontaneous and Experimental Autoinoculation of Syphilitic Chancres. M. Pinard.

54. **Pseudotumors in the Brain.**—Raymond describes two cases, dating from 1900, to illustrate the importance of an early diagnosis as prompt mercurial treatment, even in the absence of syphilis, may have a beneficial action in serous meningitis. If this fails, decompressive measures may aid in the spontaneous cure or may cure alone. The sudden onset of the meningeal and optic symptoms is characteristic. In his first case the patient had an inherited syphilitic taint; at the age of 23 a subacute meningeal syndrome developed with amaurosis, but very slowly and gradually all the symptoms subsided and by the end of three or four years there was none left except that vision was never recovered in one eye. Exophthalmic goiter developed later. In the second case also the syndrome simulated a brain tumor except that the symptoms gradually subsided in the course of two years, except the amaurosis, which still persists.

Archiv für Kinderheilkunde, Stuttgart

LII, Nos. 4-6, pp. 241-484. Last indexed January 22, p. 327

58 *Pediatrics in Medical Curriculum in Germany. (Die Kinderheilkunde im Universitätsunterricht Deutschlands.) E. Feer.
59 *Orthostatic—Lordotic—Albuminuria. R. Fischl.
60 Cerebrospinal Meningitis; Clinical Observations and Serum Treatment in New York. L. Fischer (New York).
61 Improved Technic for Developing Nipple and Drawing Milk. (Zur Technik des Stillens.) S. Weiss.
62 *Tuberculosis and Tuberculin Treatment in Young Children. (Tuberculose und Tuberkulintherapie im Säuglings- und frühen Kindesalter.) P. Röhmer.
63 Clinical and Biologic Study of the *Streptococcus enteritidis*. M. Pincherle.

58. **Pediatrics in the Medical Curriculum in Germany.**—Feer comments on the growing interest in pediatrics, not only in medical circles but in official headquarters. One of the signs of the times is that societies for internal medicine in Vienna and Berlin have recently added pediatrics to their official title. He urges that every medical college should have a hospital for children's diseases and an infant department connected with it, a special dispensary for children, all in charge of a professor who is a specialist in pediatrics. If this is not possible, there should at least be a special infants' ward, with at least 20 beds. He also urges examination in pediatrics by a specialist in the examination for license to practice.

59. **Orthostatic Albuminuria.**—Fischl expatiates on the increasing acceptance of the mechanical theory of orthostatic albuminuria, the pressure from lordosis being responsible for the development of the albuminuria. He regards this mechanical explanation as great progress, but adds that besides the lordosis there must be some predisposition on the part of the kidney or the albuminuria does not follow. He suggests as a better term, "lordotic albuminuria in the predisposed"—*Lordotische Prädispositionsalbuminurie*. Treatment, he states, should be based on this mechanical conception and everything avoided that is liable to induce lordosis, long standing or much bending of the spine. A correcting corset may be useful.

62. **Tuberculin Treatment in Infants.**—Röhmer reports three cases of tuberculous infants in whom reparatory proliferation of connective tissue seemed to have been induced by systematic tuberculin treatment. Such reparatory processes are rare in children.

Archiv für klinische Chirurgie, Berlin

XCI, No. 4, pp. 803-1059. Last indexed March 5 and 19, pp. 824 and 1012

64 *Ileus in Children. (Der Darmverschluss der Kinder.) H. Alapy.
65 Transplantation of Muscles for Defects in Abdominal Wall. (Ueber Muskeltransplantation bei Defecten der Bauchdecken.) I. I. Grekow.
66 By-Injuries and Complications in Operating for Rectal Cancer. (Nebenverletzungen und Complicationen bei der Operation des Mastdarmkrebses.) W. Kohn.
67 *Aseptic Stomach and Intestinal Operations. (Ueber aseptische Magen- und Darmoperationen.) L. Moszkowicz.
68 *Recovery from Cerebrospinal Meningitis after Trephining the Skull. (Fall von Cerebrospinalmeningitis, durch Trepanation des Schädels geheilt.) E. Tschernichowski.
69 Infection of Firearm Wounds. (Zur Frage der Infection der Schussverletzungen.) W. v. Reyher.
70 Diagnosis and Treatment of Carcinoma of the Large Intestine. T. Wette.
71 Cecal Tuberculosis. Id.
72 *Postoperative Thromboembolism. (Studien über Thrombo-Embolie, insbesondere nach Operationen.) G. Kelling.

64. **Ileus in Children.**—Alapy has encountered 45 cases of ileus in children from a few weeks to 14 years old. In the older children, conditions and syndrome resemble those in adults but in the younger ones more may be learned from palpation than in adults. Megacolon and invagination are easily recognized and occur almost exclusively in children. There were only 5 cases which did not belong in either one or the other of these categories. Ileus for which preceding

appendicitis was responsible was observed in ten different forms, but the invagination syndrome is always alike, being notable for the absence of rigidity of the abdominal walls. Prompt operation, doing as little harm as possible, is often indispensable; enterostomy should be done more readily, perhaps, than in case of adults. This is not a mere palliative operation; with only 2 exceptions the children treated by enterostomy were cured. Resection is rarely required for invagination. If it is difficult to reduce, the trouble is not on account of adhesions but of defective technic. He succeeded in reducing the invagination in every case, even with ileocecal invagination; solid adhesions were practically never encountered. In many forms of occlusion of the intestine in children medical measures alone may be given a trial, but only for a short time. The ileus must be speedily corrected as children have less resisting power than adults. The particulars of his 45 cases are given in detail. With strangulation ileus, an opening above does not restore the circulation in the parts below. But enterotomy, allowing the escape of gases and feces, and then suturing the incision at once, may give great relief and turn the scale in favor of recovery. Even with supposed strangulation ileus an enterostomy may cure as there may have been a blunder in diagnosing; the child should be given the benefit of the chance. In one such case the course of the case later first revealed that the trouble had been merely obstruction from adhesions instead of the assumed strangulation. The permeability of the intestines became spontaneously restored after enterostomy in all the cases of ileus from adhesions, without even the necessity for separation of the adhesions. The ileus in these cases is generally the result of some gross error in diet, and the enterostomy permits the removal of the articles causing the mischief.

67. **Aseptic Operations on Stomach and Intestines.**—Moszkowicz gives an illustrated description of his method of suturing the stomach or intestines before opening the lumen, and also adds the details of 37 operations, the results commending, he says, the advantages of this technic.

68. **Cerebrospinal Meningitis Cured by Trephining.**—In the case reported, a student presented a syndrome diagnosed as suppurative streptococcus meningitis of otitic origin. The mastoid process was incised but no focus found, and the skull was trephined in the posterior cranial fossa to permit of drainage. The dura was found congested and taut; three punctures released about 10 c.c. of blood-stained fluid. The needle probably entered the lateral ventricle to allow so much fluid to escape. The dura was incised and tampons introduced between it and the pia. The temperature dropped the same evening and recovery was soon complete. The disease was evidently a sporadic case of cerebrospinal meningitis, the meningococcus having found its way to the meninges through the existing chronic otitis media.

72. **Thromboembolism.**—Kelling's experimental research has confirmed the fact that thrombi may develop in consequence of stasis, of increased secretion from changes in the composition of the blood, or from infection. Prophylaxis should therefore strive to avoid compression of veins and thus avert stasis, with measures to combat the increased tendency of the blood to clot, and ensure asepsis. The persons most liable to thrombosis seem to be those who have lost much blood or are cachectic from cancer or tuberculosis, patients with infectious processes or heart disease and the corpulent inclined to sedentary habits. Digitalis may tide some patients past the danger point. In patients with heart disturbances, respiratory exercises may help to ward off danger. Even with existing infectious processes, much can be done to avoid thrombosis, care being exercised to refrain from any injury or even manipulation of the veins, the incision being made at a point where large veins are not encountered. By having the patient stand up and strain, the superficial veins become prominent and they can be marked so that the incision can avoid them. It has been his experience that by avoiding the superficial veins the deep ones also escape. If a large vein has to be severed, he ligates before cutting, and cuts the vein as far from the actual field of operation as possible, avoiding dead spaces and everything tending to compress the vein. Compression from tamponing must have an injurious influence in this line, as also any tendency to tympany which in turn compresses the veins. Special care is necessary in removing existing compression from a vein, as in evacuating an abscess that has been compressing the adjacent organs. It is well to tap the patient before undertaking omentopexy to ensure that the circulation in the region is working well before doing the Talma operation. Patients who have just been operated on should not be given milk, nor those with internal diseases with a tendency to thrombosis, such as typhoid; raw milk in particular, he says, should be avoided as its lime salts promote coagulation. Copious water drinking does not ward off thrombosis; he lost two patients from fatal embolism notwithstanding that they had been drinking very freely. Better results may be anticipated from continuous irrigation of the rectum with salt solution, which promotes circulation in the pelvic veins. Kelling ascribes to Ries (THE JOURNAL, Aug. 19, 1899, page 454), the suggestion that thrombosis may be prevented by getting the patients up early. This certainly tends to prevent stasis, but it is not an infallible preventive of embolism; he lost one patient from embolism who was allowed to get up early after an operation for incarcerated inguinal hernia. He regards frequent change of the position in bed as more important for prophylaxis than letting the patients get up soon. Special care must be taken that the buttocks do not sink deep into the mattress; it may be advisable to raise the foot of the bed when danger from pelvic thrombi is anticipated. He advises changing from the back to the side and even to the ventral decubitus at times. Massage of the legs four or five times a day is useful, he believes, to prevent thrombosis in the veins of the legs, but femoral thrombosis developed not only in convalescence from operations but also in typhoid in some of his cases, although the legs had been systematically massaged. There is no reliable premonitory sign of impending embolism but the "step pulse," *Treppenpuls*, in which the pulse increases while the temperature persists unchanged or the pulse remains high although the temperature has declined, is significant, as also slight sensations of dyspnea and pain in the side warning of embolism. In all such cases the patients should be kept unconditionally in bed for three weeks and the veins constantly supervised. He noticed that in two of his six cases of fatal embolism there was some venous bleeding in the granulations when the dressings were changed, demonstrating the stasis in the veins. Pains in the veins in the legs are also a sign that they are becoming unduly distended. Thrombosis in the veins in the small pelvis can be palpated through the vagina. An obstructing thrombus in the hypogastric vein sometimes causes a swelling at the nates; if bilateral, the genitals may swell. With thrombosis in the azygos vein edema may develop in the corresponding region in the back. The aim should be to discover new means for detecting incipient thrombosis and then if necessary to remove the thrombus from the periphery.

Deutsches Archiv für klinische Medizin, Leipsic

XCVIII, Nos. 4-6, pp. 301-614. Last indexed January 29, p. 418

73 Mountain Climate and Blood Production. (Höhenklima und Blutbildung.) E. Masing and P. Morawitz.

74 Action of Injections of Serum on Eosinophiles and Mast Cells in Human and Animal Blood. H. Schlecht.

75 The Adams-Stokes Syndrome and the Atrioventricular Bundle of His. G. Herzheimer and H. Kohl.

76 The Blood in Pulmonary Tuberculosis. (Blutbefunde bei Lungentuberkulose.) L. Steffen.

77 The Urine Sediment in Athletes and in Nephritis. (Untersuchungen des Urinsedimentes von Sportsleuten und Nephritikern.) H. B. Christensen.

78 Production and Action of Antityphoid Serum. (Gewinnung und Wirkung von Typhusheilserum.) H. Lüdke.

79 *Lines to Aid in Topography of the Anterior Thorax. (Ueber die vorderen thorakalen Richtlinien.) P. Hampeln.

80 Absorption and Biologic Behavior of Different Kinds of Sugar in the Large Intestine. (Die Resorption und das biologische Verhalten der verschiedenen Zuckerarten im Dickdarme.) A. v. Halasz.

81 *Method for Determining Pressure in Superficial Veins. (Ueber eine Methode, beim Menschen den Druck in oberflächlichen Venen exakt zu bestimmen.) F. Moritz and D. v. Tabora.

82 Mode of Elimination of Albumin after Brief Ligation of the Renal Vessels. (Ueber den Ausscheidungsort des Eiweisses bei kurzdauernden Gefässligaturen der Niere.) W. Telemann.

83 Registration of Heart Sounds and Murmurs. (Registrierungen von Herztönen und Herzgeräuschen beim Menschen.) G. Joachim and O. Weiss.

84 Pathology of Nuclein Metabolism. (Zur Pathologie des Nucleinstoffwechsels.) H. Rotky.

85 Determination of Histidin, Arginin and Lysin in the Autolysate of Pneumonic Lungs. G. Boehm.
86 Occurrence of Cleavage Products of Nucleinic Acid in the Autolysate of the Pneumonic Lung. (Auftreten von Spaltungsprodukten der Nucleinsäure bei der Autolyse der pneumonischen Lunge.) M. Mayeda.
87 *Finger-Nail Palpation of Artery Walls. (Die Nagelpalpation der Arterienwand.) J. K. A. Wertheim-Salomonson.
88 Ultimate Outcome of Case of Peculiar Intestinal Concrements. (Nachtrag zu Band LXXXIV, 1.) B. Naunyn.
89 Comparison of Gas Content of Arterial and Venous Blood as Functional Heart Test. (Ueber Schlagvolum und Herzarbeit des Menschen.) J. Plesch.

79. **Lines for Topography of the Chest.**—Hampeln urges the discarding of the terms mammary line, axillary, etc., as the anatomic conditions vary so widely in different persons. He suggests as more reliable and exact the use of the vertical median line through the sternum and a horizontal line through the base of the ensiform process. Measurements from these, he declares, are much more reliable for comparison.

81. **Method of Determining the Pressure in Superficial Veins.**—This article gives an illustrated description of a method by which communication is established through a cannula between a manometer and the blood in the median vein. Moritz and Tabora have applied this phlebotonometer about 300 times during the last eight months and on 100 patients, and describe the findings in normal and pathologic conditions. In some cases they kept up the examination for over an hour; they regard the technic as entirely harmless with ordinary precautions.

87. **Finger-Nail Palpation of Artery Walls.**—Wertheim-Salomonson has found that when the artery is palpated not with the pulpa of the finger but with the finger nail, perpendicular to the surface of the skin, it is possible to feel the artery wall alone; the contents of the vessels and the pulse are not felt with this technic, but the wall is palpated as distinctly as if the artery were dissected out. The wall is felt even in small children almost as well as in adults and with a little practice it is soon easy to tell whether the wall is thickened or not. We feel the little hill over which the finger-nail glides, thus estimating the diameter of the artery and the size of the wall when the current is shut off and other data can thus be readily learned. The entire innervation of the nail bed is called into play. A hard background is necessary for the finger-nail palpation to be most instructive. It is proving useful also for direct examination of nerves.

Deutsche medizinische Wochenschrift, Berlin

March 10, XXXVI, No. 10, pp. 441-488

90 *Treatment of Uremia. C. Bäumler. Commenced in No. 9.
91 *General Symptomatology and Treatment of Brain Tumors. (Hirngeschwülste.) Z. Bychowski.
92 *Tuberculous Meningitis in the Elderly. J. Jaquet.
93 *Hysterical and Spastic Intestinal Occlusion. (Hysterischer und spastischer Darmverschluss.) O. Nordmann.
94 *Diagnostic Tests of Kidney Functioning. (Zur funktionellen Nierendiagnostik.) J. Vogel.
95 Recovery after Severe Stab Wound of Heart. (Stichwunde des Herzens.) L. Renner.
96 *Mediate Contagion of Syphilis, and Prophylaxis. (Fall von "Syphilis insontium," zugleich ein Beitrag zur Lebensdauer der Spirochæta pallida.) O. Scheuer.
97 Radium Treatment of Nevi. (Zur Strahlenbehandlung der roten Muttermale.) H. E. Schmidt.
98 Drug Eruptions. (Arzneiexantheme.) K. Bendix.
99 Authentic Works of Hippocrates. (Echte Hippokratesschriften.) H. Schöne.

90. **Treatment of Uremia.**—Bäumler emphasizes the difficulty of differentiating the true cause of the disturbance when the patient is first seen after the onset of coma; the history of preceding scarlet fever, diphtheria or pregnancy and the existence of a tendency to edema or enlargement of the heart or albuminuria may give the clue. Even in a person known to have a chronic kidney disease, a sudden attack may be due to uremic intoxication or to apoplexy or other causes. The trouble in uremia is probably due to the action of various poisons and their effect on the most diverse organs and tissues. He warns against saline infusions when there is reason to suspect kidney derangement. In chronic kidney disease the patient should be under the constant supervision of his family physician; the specialist may give good advice but the patient may misunderstand and misapply it, so that continual oversight by the family physician is indispensable for prevention and postponement of exacerbations and mishaps. It is especially important to keep the skin working well by systematic warm baths. Douches and other sudden powerful measures are unadvisable. If there are warning signs of uremia, such as muscular twitching, adhesion and drowsiness, even the milder sweating measures may prove disastrous. Many disturbances in the circulation in nephritis are not pathologic but are merely the effort of the circulatory apparatus to maintain the compensation. In uremic poisoning, as also in diabetics, the tissues become less resistant and more susceptible to infection. Hence it is especially important to be on the lookout to prevent intertrigo or decubitus, and to insist on the patient's breathing through the nose and keeping the mouth shut during sleep.

91. **General Symptomatology of Brain Tumors.**—Bychowski found headache one of the most frequent complaints in patients with brain tumors, noticeable in that it became more intense when the patient suddenly changed his position or made a rapid movement with his head or these changes of position first elicited the headache. The lack of or subsidence of headache, however, is no evidence against the existence of a brain tumor. Slow, high tension pulse and absence of the tendon reflexes were occasionally found as manifestations of the high pressure in the brain. Another important sign is the change in the electric conductibility of the skull in case of a brain tumor. In one case this sign contradicted the other local symptoms but the operation confirmed the precision of the electric findings. The article is based on comparison of the clinical history with the autopsy findings in a number of cases in Warsaw. Many of the patients presented disturbances in the sexual sphere, arrest of menstruation, impotency, sexual infantilism with hypophysis tumors, and precocious sexual development with tumors of the pineal gland. Careful review of the history, examination of the fundus of the eye and analysis of the different symptoms will almost always differentiate brain tumor from other lesions except from hydrocephalus and serous meningitis. An acute onset with rising temperature and frequent fluctuation in the intensity of the clinical picture suggest rather the latter affections, while a constantly progressive clinical picture speaks more for a true tumor although the latter may be accompanied by hydrocephalus with fluctuation in the symptoms due to the latter. If mercury is given a trial it must be only under the control of an ophthalmologist, especially if the fundus of the eye is no longer normal. If the stasis in choked disc increases and vision continues to diminish, mercurial treatment should be suspended at once. He bases this warning on several mishaps in such cases in which absolute blindness developed under mercurial treatment. This occurred even in one case in which the disease was evidently merely a serous meningitis. One patient with a tumor in the cerebello-pontine recess lost vision in one eye during a course of specific treatment. A second course was instituted a few months later during which the sight in the other eye also was lost. The mercurial treatment not only wastes time, he asserts, but also reduces the patients' resisting power so that they are unable to bear the necessary operation later. Lumbar puncture is seldom necessary with brain tumors, and if done not more than 15 or 20 c.c. of fluid should be withdrawn. Trephining gives better results than is generally recognized, and he is convinced that the progress of surgery will reduce its dangers still more.

92. **Tuberculous Meningitis in the Elderly.**—Jaquet has encountered 9 cases of tuberculous meningitis in patients between 17 and 37 years old and 7 others between 41 and 68. In the latter group, the trouble was more a tuberculous basal meningitis. Stupor was the one symptom common to all, rapidly leading to unconsciousness and complete cerebral paralysis. Vomiting did not occur in most of the cases and headache in only 2; the abdomen was not retracted but rather inclined to tympany. Only 3 of the patients presented rigidity of the back of the neck and Kernig's sign was apparent in only a few, as also the characteristic cerebral pulse. The pupil symptoms were merely a slight sluggishness, with myosis in one case and transient strabismus in another. In 3 cases there was retention of urine, incontinence in another. The meningitic syndrome was the termination of pulmonary tuberculosis and the patients succumbed in from 5 to 20 days after the first meningeal symptoms. He is convinced that terminal tuberculous meningitis has escaped recognition in many cases.

93. **Hysterical and Spastic Intestinal Stenosis.**—Nordmann reports three cases; in one the trouble was hysterical ileus, in another spastic ileus, both patients recovering, but in the third case a long stretch of the lower segment of the ileum was contracted and the resulting disturbances proved fatal. This case shows that the paralysis of the intestines which may accompany the spasmodic contraction may prove fatal but otherwise when a nervous affection is the cause of the spasm the prognosis is not unfavorable. Treatment of the nervous contraction should be conservative so long as the general condition remains good. If the patient becomes worse, enterostomy is indicated. On suspicion of ileus from spasmodic muscular contraction the patient should be taken at once to a hospital for constant supervision.

94. **Functional Kidney Tests.**—Vogel follows palpation, percussion and chemical and bacteriologic examination of the urine with cystoscopy and this with injection of indigocarmin. The phloridzin test is then applied and the freezing point of urine and blood determined. If the findings with the latter are repeatedly abnormal he advises against an operation. The final test is the combination of the indigocarmin with catheterization of the ureters.

96. **Prophylaxis of Syphilis Insontium.**—Scheuer reports a classical example of syphilis in the innocent in which a married woman of about 40 with four children, the entire family healthy, suddenly developed a typical syphilitic chancre on the labium majus. Infection was traced to a housemaid who had used her mistress' bath sponge during the latter's absence, the housemaid having secreting papules on the genitals. The interval between this use of the sponge and the mistress' bath later was an hour and a half. Scheuer instituted research to determine how long the spirochetes retain their vitality on a wet sponge and found that they were still motile after two hours when examined in the ultramicroscope. On the other hand, he found that the spirochetes entirely lost their motility in an hour on dry substances, especially on a dried sponge. This fact that spirochetes retain their vitality over two hours in moist media explains the relative frequency of extragenital infection and also suggests prophylactic precautions. He cites a number of other typical cases of syphilis in the innocent which confirm the special danger from wet sponges, wet glasses, etc.

Medizinische Klinik, Berlin

March 6, VI, No. 10, pp. 371-410

100 Hemorrhagic Nephritis with Chronic Ulcerative Endocarditis. (Embolische nichteiterige Herdnephritis.) M. Löhlein.
101 Advantages of Combination of Anesthetics. (Zur kombinierten Narkose.) Otto.
102 Wrong Interpretation of Roentgen-Ray Findings with Concrements in Urinary Passages. (Irrtümer der Röntgendiagnostik bei Konkrementen der Harnwege.) M. Roth.
103 Value of Tuberculin in Treatment of Pulmonary Tuberculosis. F. Schultze and von Starck.
104 *Physical Measures in Treatment of Sciatica. (Die physikalische Behandlung der Ischias.) A. Fürstenberg.
105 *Experimental Production of "Goiter Heart." (Zum Kropfherz.) E. Bircher.

104. **Treatment of Sciatica.**—This communication issues from the official hydrotherapeutic institute connected with the university of Berlin and states that a complete cure or material improvement was realized in 85 per cent. of cases of sciatica. The course of treatment averaged from 6 to 8 weeks, with 4 weeks for the milder cases. The hydrotherapeutic measures strengthen the patients and render them more resistant to injurious temperature influences and chilling. Hydrotherapy or injection of fluid to detach the nerves from adhesions is the most effectual treatment in sciatica, and one may succeed where the other has failed. The article is based on 150 new cases in the last few years, all given ambulant treatment; this series follows a former one which included 114 cases.

105. **Experimental Production of "Goiter Heart."**—Bircher's report of the experimental production of goiter was mentioned in THE JOURNAL, March 26, 1910, page 1094. He here relates that the heart in the animals with induced goiter presented the anomalies common with goiter in man. It seems evident that the injurious influence causing the goiter has at the same time a direct injurious influence on the heart. The cloudy swelling and fatty degeneration in some of the animals confirm the assumption of a toxic chemical injury. Exophthalmic goiter is rather frequent, he says, in the rare cases of goiter found in places where goiter is not endemic, while in the endemic foci the Basedow syndrome is extremely rare. Only 2 mild cases were discovered in a group of 400 goiter patients in his district in Switzerland.

Münchener medizinische Wochenschrift

March 1, LVII, No. 9, pp. 441-505

106 *History of the Munich Surgical Institute for Army Surgeons. (Geschichte des Operationskurses für Militärärzte.) Leitenstorfer.
107 *Treatment of Typhoid. (Wandlungen und den heutigen Stand der Typhustherapie.) v. Vogl.
108 *Operability of Tumors in Pleura and Lungs. K. Seydel.
109 Training for Disinfection Service in the Army. (Ausbildung von Desinfektoren in der Armee.) A. Dieudonne.
110 Three Cases of External Esophagotomy for Extraction of False Teeth. Mandel.
111 *Treatment of Wound from Bullet Grazing the Stomach. (Verletzungen des Magens durch Streifschuss.) A. Schönwerth.
112 Epileptic Dream-like Mental Distraction in Two Soldiers, with "Wandering" Mania. (Beiträge zu den epileptischen Bewusstseinsstörungen mit Wandertrieb.) Glas.
113 *Importance of Schwabach's Test for Diagnosis of Intracranial Changes. (Verwertung des Schwabachschen Versuches bei der Diagnose intrakranieller Veränderungen.) Hasslauer.
114 Advantages of Moist Precipitates of Mercury Iodids in Eye Lesions. (Hydrargyrum jodatum pultiforme und Hydrargyrum bijodatum pultiforme in der Augenheilkunde.) L. v. Ammon.
115 Impairment of Fitness for Military Service by Loss of Teeth Preventing Adequate Mastication. (Einfluss des Zahnverlustes auf die Militärdiensttauglichkeit.) A. Neuner.
116 Epidemic Cerebrospinal Meningitis in Munich. (Genickstarre in München.) G. Mayer and A. Waldmann.
117 Diagnostic Tuberculin Tests in the Army. O. May.

106. **Courses for Army Surgeons.**—This number of the *Wochenschrift* is dedicated to the Munich Surgical Institute for army surgeons on the occasion of its fiftieth anniversary, and all the 16 articles are on subjects of special interest to them.

107. **Treatment of Typhoid.**—Vogl reviews the history of typhoid in the last fifty years especially at Munich and urges the importance of very cold baths in treatment in army hospitals.

108. **Operability of Tumors in Pleura and Lungs.**—Seydel has been analyzing the material of the Munich pathologic institute and cases on record striving to determine from the autopsy findings whether an operation might have been successful, also how large a part of the lung can be resected, conditions in regard to metastasis, etc. Among 10,829 autopsies in the last 10 years he found records of 1,342 tumors and 184, that is, 13.7 per cent., were in the lungs or pleura. In 73.4 per cent. the tumors were metastatic; in 9.8 per cent. tumors starting in other organs invaded the lungs, and in 31 cases, that is, 16.8 per cent. the tumors were primary in the lungs. In this last group the tumors were all malignant, and he has found 92 similar cases in the literature. He thus has compiled a total of 123 cancers of the lungs and pleura. This does not include the 150 cases of lymphosarcoma in the bronchial glands in miners in the Schneeberg mines reported by Auke in 1884, observed among less than 700 miners. He found in the 31 cases only 7 cases in which an operation might have offered a chance for recovery. In 11 cases of primary sarcoma of the pleura, 3 seem to have been operable. There were 20 cases of primary carcinoma of the lung in his material and he reviews 35 others on record; only 4 could possibly have been resected. There were 2 cases of primary carcinoma in his material, and he has found 27 on record; in only 2 cases were conditions favorable for operative removal of the growth.

111. **Firearm Wound with Bullet Grazing the Stomach.**—Schönwerth advises in such a case bed rest with close supervision, permitting an operation at the first threatening symptoms, opening the abdomen and suturing serosa over the injured portion or resecting the latter if necessary. This treatment was applied in the case reported but the patient succumbed to the loss of blood from hemorrhage into the pleura.

113. **Importance of the Schwabach Test for Diagnosis of Intracranial Changes.**—Hasslauer has found the Schwabach test for determining the condition of the sound-conducting and sound-perceiving apparatus extremely useful in differentiation of intracranial disturbances in soldiers. The test is the measurement of the time during which a series of tuning forks

are heard by air conduction and by bone conduction. Both subjective and objective findings with the test should be considered. In his 22 cases the patients complained of headache during exercise, the pain increasing until it became intolerable in some of the cases. Some of the patients had vertigo and occasional nausea while on duty. No objective findings were obtainable and the soldiers were suspected of malingering until the Schwabach test confirmed their statements, revealing unsuspected lesions inside the skull. In most of the cases there was a history of some trauma affecting the head.

Wiener klinische Wochenschrift, Vienna

March 10, XXIII, No. 10, pp. 347-843

118 *Importance of Functioning of Peripheral Blood Vessels with Failing Compensation. (Bedeutung der Funktion der peripheren Blutgefässe beim inkompensierten Kreislaufe, und die sogenannte periphere Kompensation: Incompensatio et Compensatio peripherica.) M. Franke.

119 *Morbid Susceptibility of Thyroid for Iodin in Certain Families. (Ueber die Empfindlichkeit des Kropfes gegen Jod.) F. Pineles.

120 Concentration of Hydroxyl Ions in Pathologic Blood and Influence of Mercury. C. Kreibich.

121 *Experimental Nephritis under Influence of Chilling or Mechanical Factors. (Erkältungsnephritis.) B. Polak.

118. The Peripheral Circulation.—Franke discusses the various theories prevailing in regard to the functional importance of the peripheral blood vessels. His conclusions reaffirm, he asserts, that the peripheral vessels have an independent pressure and suction action similar to that of the heart; this assumption is sustained by their anatomic structure, physiologic experiments, direct observation of the blood vessels in living animals and in certain pathologic conditions in man. At the points where there is the greatest resistance to the circulation Nature has placed a system of especially powerful blood vessels like a second peripheral heart, as in the portal and intestinal vessels. Compensation may fail from disturbances in the peripheral vessels as well as in the heart itself, and the peripheral system may compensate the heart at need; the vessels in the abdomen especially are the last resort of all means to maintain the balance in the circulation. These views, he considers, explain the beneficial effect of gymnastics, massage and baths.

119. Special Susceptibility of Certain Thyroids to Iodin.—Pineles reports 6 cases in which unusually small doses of sodium iodid in patients with goiter induced symptoms of intoxication, the patients all presenting the familiar picture of hyperfunctioning on the part of the thyroid instead of the anticipated benefit. The total amount given in the course of the treatment ranged from 1 to nearly 7 gm. (15 to 100 grains) in the course of from 10 to 45 days, the daily dose being from 0.09 to 0.33 gm. In one patient the thyroidism developed after 10 daily doses of 0.1 gm. (1½ grains). Analysis of the cases showed that the patients were all from families with a tendency to exophthalmic goiter or diabetes or neuropathies. It is evident that the thyroid in these families was peculiarly susceptible to intoxication from iodin. The practical conclusion is evident that extreme caution is necessary in patients belonging to families with a tendency to exophthalmic goiter, diabetes or a neuropathic taint.

121. Mechanical Origin of Nephritis.—Polak has been trying to reproduce the experiments recently reported by Siegel in which nephritis followed exposure to cold. But Polak was unable to detect any tendency of the kind in his 11 dogs and in 13 tests on human beings. He concludes from these experiences that Siegel was mistaken in ascribing the albuminuria observed to the preceding exposure to cold; it is far more likely, Polak declares, that the albuminuria was the result of the way in which the dogs were fastened, making them stand upright on their hind legs and thus mechanically inducing lordosis responsible for the albuminuria.

Zentralblatt für Chirurgie

March 12, XXXVII, No. 11, pp. 401-432

122 *Fracture of the Neck of the Femur in the Young. (Coxa vara traumatica und ihre Behandlung.) R. Whitman (New York).

123 Celluloid Drains as Unbreakable Substitute for Glass Drains. R. Mühsam.

122. Injuries of the Neck of the Femur in Early Life.—Whitman's views in regard to treatment of traumatic coxa vara, etc., from fracture of the neck of the femur were described in THE JOURNAL, Jan. 16, 1909, page 248, and Feb. 20, 1909, page 656.

Zentralblatt für Gynäkologie, Leipsic

March 12, XXXIV, No. 11, pp. 379-400

124 *Prevention of Peritonitis after Abdominal Hysterectomy for Cancer. (Zur Verhütung der Peritonitis nach der abdominalen Exstirpation des karzinomatösen Uterus.) F. A. Scheffzek.

125 *Osteomalacia and Internal Secretion of the Ovaries. O. Falk.

124. Prevention of Peritonitis After Abdominal Hysterectomy for Cancer.—Scheffzek reviews the various measures in vogue to prevent postoperative peritonitis, showing that most of them fail of their purpose, and then describes a technic which he considers has proved more effectual. In preparing the cancer for removal he has found cauterization with the solid iron ball far preferable to the Paquelin cautery; the action is deep and intense. The cicatricial shriveling with an inoperable carcinoma is sometimes so extensive that the growth can scarcely be recognized. The vagina must be protected with a wooden speculum against the steam. When the abdomen is opened he separates the uterus from all attachments except from its connection with the vagina, then pushes the uterus down to the floor of the pelvis, aiding by traction applied below by forceps seizing the vaginal portion. The reflexion of the peritoneum from the bladder and that from the rectum are fastened to the fundus of the uterus with a single suture. Then the peritoneum is sutured together above, to roof over the small pelvis, leaving merely a small opening in the center through which a strip of gauze is drawn and laid on the suture in the peritoneum. The abdomen is then closed and the operation completed by way of the vagina. The uterus can then be pulled outside, as the vagina is loose; the uterus almost drops out of itself, and is easily resected. The peritoneum fastened to the fundus is then detached and sutured to the raw edges in the vagina and the lower end of the gauze drain is drawn into the vagina.

125. Osteomalacia and the Internal Secretion of the Ovaries.—Falk's article was found among his papers after his recent death. In it he discussed the present theories in regard to the action of castration in osteomalacia, concluding that as yet we have no experimental grounds for the assumption of an internal secretion of the ovaries, although it is highly probable.

Zentralblatt für innere Medizin, Leipsic

March 12, XXXI, No. 11, pp. 273-296

126 *Elimination of Phosphates in Tuberculosis and Chlorosis. (Phosphatausscheidung bei Tuberkulösen und Chlorotischen.) Zickgraf.

126. Elimination of Phosphates in Tuberculosis and Chlorosis.—Zickgraf has examined 50 patients to determine the influence of these affections on the elimination of phosphates. The difference between the average in these and in health is so slight, he declares, and the variations in health so wide, that these findings cannot be considered of much importance for differentiation.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 22, XXXI, No. 23, pp. 241-248

127 Technic for Operations on the Ureter in Conservative Treatment of Kidney Lesions. (Note di tecnica negli interventi ureterali per la cura conservativa renale.) R. Cassanello.

February 27, No. 25, pp. 257-272

128 *Injurious Influence of Concomitant Helminthiasis in Typhoid. P. Barabaschi.

March 6, No. 28, pp. 289-304

129 Pathogenesis of Congenital Talipes Equinovarus. G. Frattin.

128. Helminthiasis and Typhoid.—Barabaschi states that he found helminths in only 26 per cent. of 50 patients with various affections other than typhoid while he found the trichocephalus, sometimes associated with ascarides, in all but one of 26 typhoid patients, and in the case with negative findings possibly repeated examination might have revealed helminths. Guiart found the trichocephalus in 91.66 per cent. of his typhoid patients. These facts suggest, he says, the importance of such parasites not only in treatment of typhoid but also in prophylaxis. Barabaschi commends the practice of thorough purging at the onset of typhoid fever as aiding in expelling helminths. He is also an advocate of generous

feeding, believing that many of the serious symptoms in typhoid are due to the inanition rather than to the infection itself.

Policlinico, Rome

March 6, XVII, No. 10, pp. 291-322

130 *Convoluted Uterus. (Utero a lumaca.) L. M. Bossi.
131 Iodin in Surgical Disinfection. (Un nuovo metodo di disinfezione del campo operativo.) A. Grossich.

March 13, No. 11, pp. 323-354

132 *Relaxation of Masseter as Sign of Complete Anesthesia. (Alcune osservazioni sulla ossigeno-cloroformionarcosi e sulla tecnica della narcosi in generale.) L. Fiori.

130. **Convoluted Uterus.**—Bossi's communication on the form of uterus with which the lower segment curls around like the convolution of a snail-shell, was mentioned in THE JOURNAL, July 4, 1908, page 88, as also the technic which he proposes to remedy the condition and promote the normal development of the uterus.

132. **Relaxation of Masseter in General Anesthesia.**—Fiori calls attention to the fact that the muscles of the jaw seem to feel the effect of the anesthetic before any other muscle, and thus the relaxation of these muscles is the sign that the desired effect is just being realized. The cessation of the contraction in this muscle is a much more reliable index, he thinks, than the sensory signs and changes in the reflexes, as the relaxation of the muscles indicates that the muscles in the field of operation are likewise relaxing which is not always the case when only the reflexes are abolished. The early effect of poisons on the mastication muscles is especially marked in the trismus of tetanus, in the action of strychnin, and in the appearance and disappearance of cadaveric rigidity. For the anesthetic he prefers a mixture of chloroform and oxygen; the latter, from an ordinary oxygen tank, comes bubbling through the chloroform into the mouth-piece.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

HEALTH-EDUCATION SERIES. No. 17, Health in Labor Camps, by E. H. Richards. Price, 3 cents. Pp. 10. No. 18, Tuberculosis, by E. O. Otis, M.D. Price, 5 cents. Pp. 24. No. 19, When to Call the Physician, by G. W. Gay, M.D. Price, 4 cents. Pp. 15. No. 20, Habits of Health, by P. W. Goldsbury, M.D. Price, 4 cents. Pp. 24. No. 21, Wastes and Their Disposal, by H. J. Barnes, M.D., Professor of Hygiene, Tufts College Medical School. Price, 4 cents. Pp. 17. Paper. Special prices in quantities. Boston: Health-Education League (1910).

THE PROLONGATION OF LIFE. Optimistic Studies. By Elie Metchnikoff, Subdirector of the Pasteur Institute, Paris. English Translation Edited by P. Chalmers Mitchell, M.A., Secretary of the Zoological Society of London. Popular Edition with an Introduction by Charles S. Minot, LL.D., President of Boston Society of Natural History. Cloth. Price, $1.75 net. Pp. 343, with 27 illustrations. New York: G. P. Putnam's Sons, 1910.

THE SEXUAL LIFE OF WOMAN IN ITS PHYSIOLOGICAL, PATHOLOGICAL AND HYGIENIC ASPECTS. By E. Heinrich Kisch, M.D., Professor of the German Medical Faculty of the University of Prague. Only Authorized Translation into the English Language from the German by M. Eden Paul, M.D., Cloth. Price, $5. Pp. 686, with 97 illustrations. New York: Rebman Company [1910].

THE DISEASES OF THE NOSE, MOUTH, PHARYNX AND LARYNX. A Text-Book for Students and Practicians of Medicine. By Dr. Alfred Bruck (Berlin). Edited and Translated by F. W. Forbes Ross, M.D., Late Civil Surgeon, His Brittannic Majesty's Guards Hospital, London. Assisted by Friedrich Gans, M.D. Cloth. Price, $5. Pp. 615, with 217 illustrations. New York: Rebman Company [1910].

STUDIES IN IMMUNITY. By Professor Paul Ehrlich, Privy Councilor and Director of the Royal Institute for Experimental Therapy, Frankfurt, Germany, and his Collaborators. Collected and Translated by Charles Bolduan, M.D., Bacteriologist, Research Laboratory, Department of Health, City of New York. Second Edition. Cloth. Price, $6. Pp. 712. New York: John Wiley & Sons, 1910.

THE SURGERY AND PATHOLOGY OF THE THYROID AND PARATHYROID GLANDS. By Albert J. Ochsner, M.D., Professor of Surgery in the Medical Department of the University of Illinois, and Ralph L. Thompson, M.D., Professor of Pathology in the St. Louis University School of Medicine, St. Louis. Cloth. Price, $6. Pp. 391, with 97 illustrations. St. Louis: C. V. Mosby Company, 1910.

CLAIMS ARISING FROM RESULTS OF PERSONAL INJURIES. The Relation Injury Bears to Disease and Disease to Injury. W. Edward Magruder, M.D., Associate Professor of Clinical Medicine, College of Physicians and Surgeons. Cloth. Price, $2.50. Pp. 266. New York: The Spectator Company (1910).

HANDBOOK OF DISEASES OF THE EAR. For the Use of Students and Practitioners. By Richard Lake, F.R.C.S., England, Surgeon, Diseases of Ear, etc., London School of Clinical Medicine. Third Edition. Cloth. Price, $2.75 net. Pp. 238, with 66 illustrations. New York: William Wood & Company, 1910.

RHINOLOGY. A Text-Book of Diseases of the Nose and the Nasal Accessory Sinuses. By Patrick W. Williams, M. D., Lecturer on Diseases of the Nose and Throat at the University of Bristol. Cloth. Price, $4.20. Pp. 273, with illustrations. New York: Longmans, Green & Co., 1910.

ESSENTIALS OF MEDICAL ELECTRICITY AND RADIOGRAPHY. By Edward R. Morton, M.D., Vice-President, Electro-Therapeutical Section, Royal Society of Medicine. Second Edition. Cloth. Price, $1.75. Pp. 343, with 140 illustrations. Chicago: Chicago Medical Book Co., 1910.

ANATOMY AND PHYSIOLOGY OF THE FEMALE GENERATIVE ORGANS AND OF PREGNANCY. By Arthur E. Giles, M.D., Gynecologist to the Prince of Wales' General Hospital. Third Edition. Price, $1.50 net. Paper. Pp. 24, with illustrations. New York: Paul B. Hoeber, 1910.

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THE SIMPLE CARBOHYDRATES AND THE GLUCOSIDES. By E. Frankland Armstrong, D.Sc., Associate of the City and Guilds of London Institute. Cloth. Price, $1.20. Pp. 112. New York: Longmans, Green and Co., 1910.

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THE PRACTICAL CARE AND FEEDING OF CHILDREN. By Mary A. Dunn, Graduate of Woman's Hospital, Chicago, Ill. Second Edition. Cloth. Price, $1.50. Pp. 150. Chicago: Chicago Medical Book Co., 1909.

SOME COMMON REMEDIES AND THEIR USE IN PRACTICE. By Eustace Smith, M.D., Fellow of the Royal College of Physicians. Cloth. Price, $1.25 net. Pp. 112. New York: Paul B. Hoeber, 1910.

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New Patents

Recent patents of interest to physicians:

940775. Shoulder brace. J. U. Adams, Cincinnati.
940921. Disinfecting apparatus. W. M. Byer, Jersey City, N. J.
940958. Bed-pad. J. P. Duval, Kansas City, Mo.
941245. Water-bag. F. A. Gordon, Nogales, Ariz.
941197. Artificial hand. W. A. Hennessey, Ashland, Wis.
941036. Causticizing tank. E. F. Parker, Fairfield, Me.
940894. Optical cystoscope system. M. von Rohr, Jena, Germany.
940735. Apparatus for developing the lungs. V. J. Schaffer and J. M. Dempsey, Chicago.
940991. Syrup-pump for soda fountains. H. L. Snediker, Kansas City, Mo.
940831. Aseptic lamp for dental, medical or surgical purposes. D. L. Stark, Cincinnati.
941905. Liquid tight dosing device. E. M. Bajon, Paris, France.
941608. Instrument and medicine case. C. B. Benson, Tippecanoe City, Ohio.
941489. Medicine dispenser. F. M. Beverly, Marion, Ohio.
941673. Electrovibratory couch. W. A. Church, Los Angeles.
941620. Invalid bed. J. H. Comer. Comers Rock, Va.
941785. Producing a mineral oil emulsion. S. Knopf, Vienna, Austria-Hungary.
941423. Making preventive and curative lymph. S. Krafft, Munich, Germany.
941888. Antiseptic. A. Liebrecht, Frankfort-on-the-Main, Germany.
942015. Syringe. J. W. Short, Geneva, N. Y.
941434. Hair tonic. C. Teorones, Minneapolis.
40377. Design, reservoir for fountain syringes. D. W. Keith, Plankinton, S. D.
942046. Generating and storing ozone. F. M. Ashley, New York.
942700. Condensation product of phenol and formaldehyde and making same. L. H. Baekeland, Yonkers, N. Y.
942699. Making insoluble products of phenol and formaldehyde. L. H. Baekeland, Yonkers, N. Y.
942538. Antiseptic soap. W. A. Beatty, New York.
942547. Sanitary ware. J. J. Cosgrove, Scranton, Pa.
942206. Massage apparatus. J. W. Jones, New York.
942093. Joint for artificial limbs. F. W. Merrick, Chicago.
942521. Artificial foot. J. F. Rowley, Chicago.
942590. Rectal apparatus. J. P. Sanborn, Cleveland, Ohio.
942523. Irrigating syringe. W. S. Sawyer, Camden, N. J.
942596. Vibrator. A. J. Stecker, Detroit.
942299. Massage device. H. Wiking, Gottenborg, and B. J. Bengtsson, Kallered, Sweden.
943132. Producing nitrids. C. E. Acker, New York.
943180. Inhaling apparatus. P. H. Cherry, Los Angeles.
943003. Device for handling invalids. E. Cleaves, Searsport, Me.
943399. Making and recovering ammonia, etc. W. J. Dunnachie, Coatbridge, Scotland.
943015. Apparatus for detecting and indicating gases in the atmosphere. T. Groesbeck, Cincinnati.
948263. Surgical forceps. E. Moraweck, Louisville, Ky.
943453. Obstetrical bed. W. B. Peak, Pinhook Landing, Tenn.
942976. Exercising or massage apparatus. R. Reach, Philadelphia.
942935. Apparatus for disposing of noxious gases. W. H. Sartain, Columbus, Ohio.
943163. Agar-agar-cascara product. A. Schmidt, Dresden, Germany.
943608. Apparatus for forming capsules. B. W. Scott, Detroit.
943620. Vibrator. A. J. Stecker, Detroit.
943578. Digitalis extract. R. Tambach, Ludwigshafen-on-the-Rhine, Germany.